

MOTOR AGE

Vol. VII
No. 20

CHICAGO, MAY 18, 1905

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MOTOR AGE

VOL. VII. NO. 20

CHICAGO, MAY 18, 1905

\$2.00 Per Year

THE TALE OF A TENDERFOOT'S TOUR



OUR party was made up of the Owner, who was an expert, and his wife, and the Tenderfoot, who was a novice, and his wife. I use the word tenderfoot as expressing my relation to the trip in the car. I couldn't call myself an amateur, for I had nothing to

do with running the machine. It was my thought at first that anyone could ride in an automobile, but I found that it took some experience to do even this on country runs over sometimes rough roads. The first day's ride at high speed over roads that developed hidden and unseen chucks, made a good many bruises upon Mrs. Tenderfoot and me, but after we acquired the knack of riding the warning cry of "bump" from the front seat only added zest and exhilaration to the sport. A word of advice to other tenderfeet: Never get your tonneau so full of baggage that you haven't ample foot room.

In using the word tenderfoot I do not wish to convey the impression that I am a washed-out stripling from the effete east. I am a tenderfoot only as applied to an automobile. We were all familiar with the west and with the mountains, and love and are used to the life in the open.

Our plan was to make an automobile trip from Los Angeles to San Francisco and back again, in February of this year. This is reported to be an easy trip. Probably it is at some seasons of the year. It will interest those whose impressions of California are formed of the country around Los Angeles to know that in making this trip and following the coast line there are five distinct mountain passes that must be crossed. It is also interesting to know that, winter being

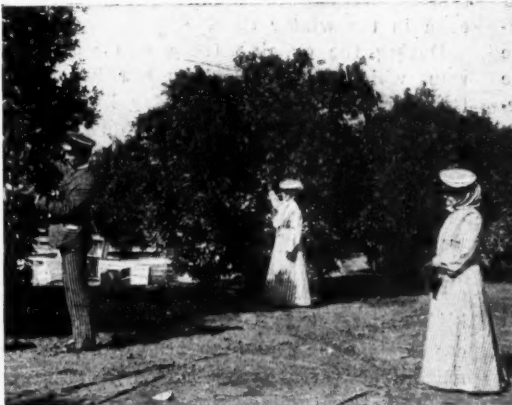


A STEEP MOUNTAIN ROAD

A WAYSIDE TIRE REPAIR

the rainy season, while there are great strips of fine roads, there are some very difficult sections when a rainstorm is on. This is because mountain streams rise in a night from dry beds to impassable torrents, and also and more particularly on account of the fact that there are several sections which the natives call "dobee" roads. These are natural roads made up of the most clinging and persistent adobe clay, a clay from which sun-dried "bricks without straw" can be made

EDITOR'S NOTE—The participants in this tour were: Mr. and Mrs. Owner, Mr. and Mrs. James L. Mead, of Chicago; Mr. and Mrs. Tenderfoot, Mr. and Mrs. C. Charles Miller, of Salt Lake City; the automobile, a two-cylinder Benz-Parsifal.



A STOP FOR ORANGES

that will last an hundred years. For some days after a rainstorm a stretch of these adobe roads will be absolutely impassable.

We started our trip, with a long day's journey ahead of us, at 11:30 o'clock in the morning. The weather man had predicted rain and the clouds were threatening, and wavering between the desire of adventure and natural caution, we departed late with the intention of the skies still unsettled.

From Hollywood, a beautiful suburb lying about 10 miles north of Los Angeles, we went up what is called the Cajunga pass. This is dignified with the name of pass because it is near a big city. It could not be properly classed as a mountain pass. The roads were fine, and our hearts were light. When we passed Calabasas we thought it wise to make a food investment, as there did not seem to be much promise of a luncheon station along the way; so with canned meats, crackers and fruits we had a royal wayside lunch. These noonday luncheons became quite a feature of our trip. We found it much easier to lay in a store of luncheon goods, liquid and solid, and to stop along the way to enjoy a picnic meal than to try to make certain luncheon stops at towns.

In this section of the country the roads were excellent, although we passed over a good deal of rolling country that threatened adobe clay under rain con-



THE DRIVE AT MONTEREY



OLD MISSION AT SAN JUAN
CASTRO'S OLD HOME AT SAN JUAN

ditions. Dropping into the foothills and down into the Santa Clara Valley we were privileged to ride down a new grade of "dug-way" exceedingly picturesque. The only drawback to this long and picturesque grade was the sharp turns that made it impossible for us to coast. Both for fear of skidding off the bank and of meeting teams unexpectedly around the corner we had to let ourselves down slowly over what might have been an exhilarating coast.

The Santa Clara valley is one of beauty and interest, and from the looks of things, prosperous, but the occasional strips of sandy road make trouble for the automobilist. On the ride we missed by accident several severe "Santa Anas." A Santa Ana, as we were told, means a sand storm. There were times when we could see them blowing across our roadway a mile or two ahead, giving promise of a very disagreeable strip of road, but fortunately they ceased long enough for us to dash through, the clouds of sand behind us obscuring the mountain landscape.

These sand storms account for a peculiar condition of road found in some sections of the Santa Clara valley. Long rows of eucalyptus trees parallel the road and cause the sand to drift into the roadway between the trees. In some sections we would see a perfectly level strip of farm land on both sides, while the road bed would be three or four feet above the level of the surrounding country of white drifted sand, looking for all the world like the snow drifts between the lines of a rail fence. There were some strips of this sand road that we covered afoot—that is, Mrs. Tenderfoot, Mrs. Owner, and I covered them afoot, while Mr. Owner drove the machine through. The machine, thus lightened, was able to go through the worst of these sand roads without outside help.



A REST FROM TRAVEL WHERE THE ROAD RUNS
CLOSE TO THE PACIFIC

We drove into Ventura about 4 o'clock in the afternoon. We had been warned against the Ventura river, as it is not bridged, and had been swept and gouged and undermined and changed by the mountain floods until a man needed a balloon to cross it. The last man who tried to cross it with an automobile broke two springs and an axle in an attempt to rush it. I believe it took a rope and tackle and two teams a day and a half to get the automobile out of the sand. All of this we had been told in advance, and this and numerous other tales were confirmed at Ventura, and we decided that the country between Ventura and Santa Barbara should be covered by rail.

We had a piece of rare good luck, finding a freight train on the main track, just ready to pull out. By a little swift negotiation with agent and conductor we were able to drive our machine into a freight car, lock the door, hop into the caboose and ride away by rail for Santa Barbara. That ride in the caboose was an interesting experience, especially for Mrs. Owner and Mrs. Tenderfoot, who occupied the conductor's chair in the cupola and were able to get a view of interesting country, the road from Ventura to Santa Barbara following the sea coast. About 6 o'clock we pulled into Santa Barbara, ran our machine out of the freight car, climbed into it, and drove through town to the Potter hotel quite independent and exhilarated, and feeling that our trip had had an auspicious beginning.

It is only fair to California to say that the oldest inhabitant we could find along the road told us solemnly that there never had been, as far back as he could remember—40 years or so—such rain storms and floods as in February and March, 1905. Ordinarily, he told us, fording the Ventura river was easy, even in the winter time.

During the evening there was a dash of rain, which put a cloud on our hopes, but the morning of our second day broke clear, and after a little drive through Santa Barbara we started on what was perhaps the most interesting day of our trip. After passing through a beautiful valley west of Santa Barbara we dropped back to the sea coast. Here for a distance of something like 20 miles we skirted the coast, now on a bench high above the surf, now at sea level. The coast at this point is intercepted by innumerable "arroyos." In this 20 miles we counted twenty-nine separate and distinct arroyos. Some would be found dry at the



ROUNDING AN ABRUPT CORNER ON AN EXCELLENT
MOUNTAIN ROAD

bottom, some with streams, some bridged, some with fords. In the summer season these are all bone dry. It was climb up and then drop down, with the character of roads making it impossible to rush the streams. It was a tedious strip of road from a driver's standpoint, but an exceedingly interesting one from that of a sight-seer. With the Pacific ocean roaring at the base of the cliffs on one side, and the mountains rising above on the other, we were in a constant attitude of exclamation over the beauties and grandeur of the panorama Mother Nature spread around us. There were boats at sea to speculate upon and animal life a-plenty. Once we noticed a school of porpoises; there were numerous sea birds, and once, when on the level of the beach, we alarmed a homely but dignified group of pelicans into hurried flight.

At Gaviota we had planned to have our luncheon. Gaviota "looked good" on the map. When we reached it—no luncheon. However, the station master ran a little store, so we were able to purchase the making of our regular picnic lunch. At this point we left the sea shore and climbed abruptly over what is known as the Gaviota pass. We passed up through a picturesque canyon, and after a climb of an hour reached the summit and were regaled by the sight of a great strip of mountain country. We were right in the heart of the "dobe" roads country, so we watched a few clouds rather anxiously. We were told that immediately after a rain storm a car had to run on its low gear to make any headway running down a 12 per cent grade. We found the roads in good condition, though a little rough in places. At the bottom of the pass we crossed the Santa Ynez river over a good bridge, a rarity in that section of the state. Near this bridge is an old mission, seldom seen by the tourists. This would have made an attractive stopping place, but we were eager to get away from the dread adobe road section and passed it with a glance.

On the journey from Santa Barbara to this point we had met scarcely a person, as the district is distinctly a grazing country, sparsely settled, and with little travel on the roads.

During the trip we had several hand-to-hand encounters with Spanish names. Gen-

erally we came off victorious, and made a great effort to appear at home among the natives in regard to local names, but in Santa Ynez we met our Waterloo. Asking a native the direction we referred to this river as "Santa Wyknees." With a withering glance and with undue emphasis on the name the native told us that the ford across the *Sant Anez* was impassable at that time of the year, and that we must keep to the bridge road.

From Los Olivos—Los Ol-ee-vis—we mounted another little divide before we dropped down into the Santa Maria valley. At Santa Maria we decided, though late in the afternoon, to run through to San Luis Obispo. We were correctly informed that the roads for the balance of our day's journey were exceedingly good. We had left the adobe roads behind us. Upon inquiry an inhabitant of Santa Maria assured me, with a twinkle in his eye, that we would have no difficulty in fording the Santa Maria. When we reached the river bank we understood the twinkle. The river was a strip of sand an eighth of a mile wide with not a drop of water in sight. We learned later, however, that the Santa Maria might be far from a joke; in fact, a big touring car had stuck the week before in it and had to be pulled out with rope and tackle. It is a typical California stream of this section. After a big rain storm it will rise in 3 hours until it will swim a horse for an eighth of a mile. In 2 days' time there will not be a drop of water in it.

Between Santa Maria and Arroyo Grande we passed over a rolling country with undulating roads, where we had a thrilling chase after a greyhound. The arroyos, the mountain passes and the slow roads we had come over during the bulk of the day had made us willing to go the limit upon a good strip of road. When a long, lean greyhound took the road directly in front of the machine and kept ahead of it mile after mile our sporting blood arose, and we took chances where prudence should have restrained us. We would go down one hill with the high speed on and the throttle wide open, taking chances on the possibility of a chuck at the bottom. Upon such a stretch the greyhound would lay his ears back and put forth a burst of speed that always managed to keep him

a little ahead. Going up the hill which would follow he would lope along and look back over his shoulder and laugh at us. He certainly enjoyed it. When we passed through the little village of Nipoma he dropped down a side street, and, looking back with a smile, trotted off.

At Arroyo Grande we stopped long enough to eat supper and hear the wonderful tales of the productiveness of this valley. We were proudly informed that the big seed men of the east, when they offer prizes for big vegetables grown with their seed, always exclude the inhabitants of Arroyo Grande from the competition. Here also we discovered that we had to pay the price for our greyhound chase. We had broken a spring and night was upon us. Had we been "real downright sensible" we would have stayed at Arroyo Grande, but what we did do was to light our lamps and start out for a 15-mile ride in the dark, with the best directions we could get as to the roadway.

Part of the road lay along the sea shore. In the dark, away down below us, we could hear the roar of the waves, and it added to the romance of the situation to imagine that we were hanging to the edge of a cliff and were very daring. Off on a point across the water we could see the alternating red and white light of a lighthouse. We hoped by watching this carefully to keep off the rocks. One of the tires picked up a horseshoe within two miles of our destination and was punctured. I, being a tenderfoot and ignorant of such things, could but stand around on one foot and hold the light, while Mr. Owner labored patiently and long to repair the puncture. We had braced up the broken spring with a rubber bumper.

The repair work finally done, we slowly and sedately slid into San Luis Obispo, reaching the Romona hotel a little before midnight. It had been an interesting day, but a long one.

At this night stop began a series of incidents, always amusing and sometimes embarrassing. The sleepy clerk at the Romona was unable to figure the party out. From his standpoint a touring party always contained a professional chauffeur. Placing Mr. Owner, therefore, as the mechanic and chauffeur, and knowing that two ladies couldn't properly belong to me, he solved the riddle by placing the ladies in one room and reserving another for the men.

The bulk of our third day was spent in permanently repairing the tire—we had started on this journey without taking an extra tire with

us—and in having a local blacksmith make an entire new spring, which he did in a finished and workmanlike manner. Mr. Wright, an enthusiastic automobilist of San Luis Obispo, gave us many valuable pointers as to the roads we were to cover between his native city and San Francisco. Late in the afternoon, our repairs completed, we made a short drive to Paso Robles, where there is an exceedingly good hotel and a famous hot spring. In making this short journey we crossed another mountain pass, which although high, was traversed by a good road built to grade, and wide enough so that one could pass a team without forcing the horses up on to the mountain side. Though progress was necessarily slow up these mountain steeps we were always more than repaid for the delay by the magnificence of the scenery.

The fourth day we drove from Paso Robles to Salinas. In the dry months this would be a short drive. The road crosses the Salinas river a number of times by ford. In order to avoid these fords we made two wide detours and crossed two mountain passes. At one place we had to leave the regular road, go through a farmer's yard, wind around to a mountain road, follow up a little valley called Indian valley, cross over and finally drop back again, covering a distance of 14 or 15 miles to get 3 or 4 miles ahead. The detour paid however, as the last automobile that tried to cross the Salinas river at that ford had come through with a broken spring and other damages, to say nothing of the discomfort to the members of the party. We were also told of a number of wrecks that had been caused by attempting it. After our detour we reached a series of bridges across the Salinas. One we crossed at San Miguel, and one at Bradley. Between Bradley and Salinas we made a wide detour to Jolan, over the Jolan

OLD PLAZA HOTEL AT SAN JUAN



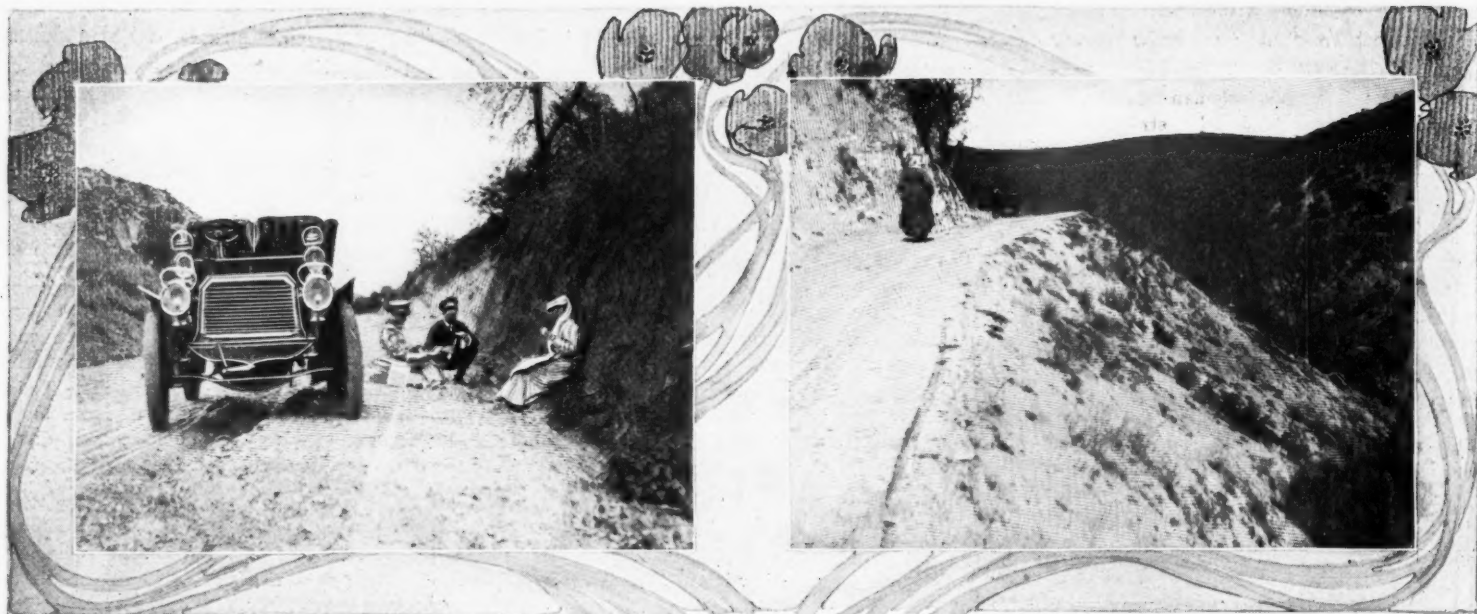
A STEADY MOUNTAIN CLIMB



MOTORING AMONG THE CLOUDS



A WINTER LANDSCAPE



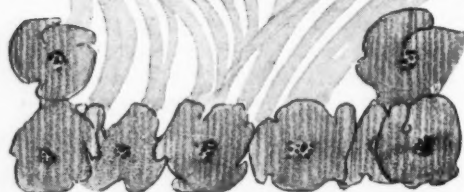
MIDDAY LUNCHEON BY THE ROADSIDE

pass, adding another 15 or 20 miles to the length of our journey.

We now began to meet numerous teams, and while our progress was often retarded by the thoughtfulness and care of Mr. Owner in an effort to avoid accidents, the journey was enlivened by the interest created. Generally speaking we found the drivers more frightened than the horses. It was not an unusual thing to see an owner hanging to the bits of the horses which scarcely noticed us as we drove by. At one point on this road we met an eight-mule team drawing a big freight wagon. The driver, seeing us coming from afar, had driven his team up to a fence, chained his leaders to it, and was in the seat with his brake set and his hands nervously holding the lines when we rolled past. The mules themselves ignored our presence. It was not unusual to meet nervous old ladies who would, as we approached, wave their hands frantically as signals of distress. Under such circumstances the machine was always stopped while Mr. Tenderfoot led the puzzled farm plug by the automobile and startled the old lady safely on her way.

It was along this road, however, that we came near witnessing a serious accident. A little man, from his accent a foreigner, had driven his horse hitched to a single buggy, to the side of the road, and was standing at the animal's head. That he was inexperienced with horses was evident from the fact that he stood directly in front of the horse, facing it. The road was wide at this point and we saw no difficulty in slipping quietly by. Just as we were opposite the horse, however, he reared, shook the driver loose, and knocking him down ran over him and went dashing down the road. The driver not being injured as we feared, immediately rose to his feet and shaking his fist at us, tore down the road after his running horse. The man farther back with the mule team, seeing the affair stopped the horse. Breathing a sigh of relief we drove on to Salinas.

The fifth day we spent in the neighborhood of Monterey, this being a side trip, and a break in our journey. We were then in the region of oiled or macadamized roads, and were in a measure independent of rain storms. The threatening clouds, too, had mostly disappeared, and we had entered a period of bright and fair weather. The trip to Monterey and back, which included a little drive around the



grounds of the famous Del Monte hotel, and around the famous 17-mile drive, open to automobilists only by securing a special permit from the Del Monte hotel, was one of the most delightful days we spent. We were continually encountering herds of stock in this section of the country, and endeavored several times to get camera snap shots of fleeing sheep or cattle or horses, as they ran ahead of the machine, but the shutter was not fast enough.

As we drove up to the Del Monte hotel that morning, the flunkies came swarming down to get our baggage. As I helped the ladies out I waved them aside, telling them not to disturb the baggage, as we would be there only for luncheon. Mr. Owner asked the location of the garage and one of the officious flunkies at this point repeated the Romona hotel incident by waving his hand toward Mr. Owner, and saying: "Will your man have luncheon too?"

It had been our intention to spend that night in Salinas, but as it was early in the afternoon when we reached that point we determined to drive on over to San Juan, especially as there was one more mountain pass to cross. The clouds were hanging over the mountain tops and as we rode over the divide we passed through the clouds, which gave rather a weird effect to the scenery. San Juan we found a quaint little village off the railroad, in a beautiful valley, and with many points of historic interest. One of the oldest missions in the state is there. We were comfortably housed that night in an old adobe hotel, with walls 6 feet thick, and which had been a public caravansary for more than 100 years. At one time, in the old Spanish days, it was of great importance. Adjoining the hotel is the old house in which Castro, the last Spanish governor, resided.

It was Saturday evening, and in the plaza hall the young people of San Juan were giving a ball. We were invited, and although somewhat travel worn and dusty, accepted. A more hospitable class of people we never expect to find. We were taken in charge by the master of ceremonies, and before the music ceased that night had a speaking acquaintance with-half the

NEAR THE END OF A STEEP CLIMB

young people of the immediate neighborhood.

The sixth and last day of our journey was Sunday. With fine roads, fair weather, and the car getting warmed to its work, we skimmed the country, touching only the proverbial high places. Between San Jose and Oakland we found the best strip of roads we had met anywhere in California, and here we encountered a club run of motor cyclists. I never knew so many motor cycles existed in the world as we met that day. It seemed there was not a mile of road between San Jose and Oakland but had its quota of motor cycles spluttering along.

We were anxious to reach Oakland early in the afternoon, in order to be sure to cross the bay into San Francisco, as we had been informed that only a special ferry boat would carry automobiles and that the last boat would leave at 4 o'clock in the afternoon. We caught this boat in good shape and at 5 o'clock drove up in front of the St. Francis hotel, our journey at an end.

In San Francisco we were taken to the police station for driving within the sacred precincts of the Golden Gate park without a special Golden Gate license, in addition to the city license a special license being required in this park, meaning an exhaustive examination by the park commissioners and a lot of "rigamarole," all of which we learned after we had ventured on to the forbidden ground. However, the sergeant who handled the matter proved a jolly and sympathetic chap, and, when we explained the temporary nature of our sojourn in San Francisco, gave us nothing worse than an admonition.

Good weather prevailed when we started on our return trip. The first day we made a good run, spending the night at Paradise Springs, a charming little spot about 5 miles west of Solidad, up in the foot hills. Here the same old situation arose with the hotel clerk, and he settled it by establishing each member of the party in a separate room distinctly removed from the others.

The second day we ran to Paso Robles, making the former wide detours to avoid fording the Salinas river, spending a half day there, and running the afternoon of the third day to Santa Maria.

Santa Maria marked the end of our motor journey. The next morning while we were at breakfast it began to rain and continued to rain steadily for a week; the whole country

being washed out. Did you ever see a tropical rain? The only adequate description we had of it was that of a gentleman who told us if we should start across the street with an empty bucket in hand it would be full before we reached the curb on the other side. Dry beds and channels became roaring torrents. The whole country was inundated. Fortunately, between Santa Maria and Guadalupe, the station on the coast line, there was an oiled road, which made us independent of rains. We drove the machine to Guadalupe, arranged to ship it by express to Los Angeles, and to take the train ourselves. This we did after watching it rain for a day.

We arose at 3:30 in the morning to catch the train and to express the automobile, having the night before built a platform from which to shove it quickly into the express car. When the train pulled in we found the door of the express car 2 inches too narrow to allow the automobile to enter, so we shipped it by freight, leaving it for loading in the care of the station agent. He did this carefully, the machine arriving in Los Angeles in good shape.

Before the day was out, we were not certain that we had been wise in exchanging our automobile for the train. It took us 3½ days to go 150 miles by rail. The Southern Pacific tracks were washed out, and our ride was made on the installment plan. At Santa Barbara there were at one time over a thousand passengers in the railroad yards awaiting the opening of traffic. Here the oldest inhabitant was in his glory with tales of memory and imagination.

One should not, from our experience, gain an erroneous impression of California roads. There are several sections in the state where the oiled and macademized roads render the automobilist independent of the winter rain storms. There is a district of this kind at San Diego, one at Los Angeles, one at Santa Barbara and one at San Luis Obispo, while the roads from Oakland, through San Jose, to Monterey, are of such nature that they can be used almost immediately after a rain storm, although the connecting links must be made during a dry spell.

For winter driving I am told that the region around Los Angeles, Pasadena and Riverside, is the most beautiful and generally satisfactory of any in this country.

TALY'S COURSE BEST

French Drivers Say the Road Over Which Florio Race Is To Be Run Beats Other Circuits

Paris, France, May 4—Notwithstanding the fact that there will be only two big road races in France this year, the manufacturers have their hands full getting ready for these events and for the Vanderbilt, Circuit des Ardennes and Florio road races in the United States, Belgium and Italy, respectively. While the last of these events is not the most important, the French manufacturers seem more desirous of winning it than the Belgian or American race, the reason being that commerce between France and the two last named countries is already well established, so far as automobiles are concerned, while in Italy the competition from Germany, Belgium, Austria and Great Britain is very keen. Failure of France to win the Florio cup would probably mean a loss of millions of dollars to the French industry, the manufacturers considering it one of the big international events, and one of the best for increasing foreign sales of French cars.

The French manufacturers do not spend thousands of dollars in building racing cars and in competing in important races for their love of the sport but simply as a matter of business, because racing success, the Frenchmen think, is the best advertisement he can get. There are sportsmen in France as in any other country, but every French sportsman is also a business man.

The Brescia circuit, on which the Florio cup race is to be run in September, has already been inspected by many interested Frenchmen, and even some of the prospective drivers have found time to make trips from their Bennett cup race headquarters in Clermont-Ferrand to Italy, in order to ascertain the

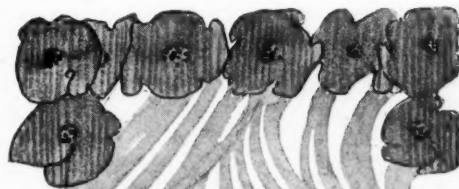
condition of course. Most of them think that the Italian course is the best on the continent for a road race. Over the entire circuit of approximately 87 miles there are not 3 miles of defective road, and there is only one hill, about ¼-mile long, with a 5 per cent grade.

The start and finish on the Brescia course will be about ¼-mile from the town of Brescia. For 18½ miles the road is almost straight and always level, permitting fast driving. In entering the town of Pontevico there is a double turn, which is the only really difficult place on the entire circuit. After passing this turn the course leads on straight almost to Cremona, and then over a suburban road to Piadena, a stretch of 11 miles of splendid straight and level highway. Near Bozzolo there is a rather sharp turn, and then the river Oglio is crossed by a bridge on which only two cars can venture at the same time. Then the road continues to Goito, being good but a succession of wide turns. From Bioto to the finish there are only three towns: Castiglione, Montechiari and Castelnedolo. Near the latter town is the only steep hill on the course and which is a short one.

The Italian authorities have already taken measures to prevent possible accidents on the day of the race. Besides having advised the inhabitants that all traffic will be suspended that day, the bishops have requested the priests to announce to their congregations from the pulpit that on the day of the race nobody except those connected with the contest will be allowed on the highways or village streets to be traversed by the racers.

Temporary bridges will have to be erected over two important railroad lines, while minor railroads and local traction companies will suspend traffic during the race.

At a meeting of the Automobile Club of Italy, recently held in Milan, it was decided to limit the entry of cars of one manufacturer to four, instead of to five, as originally planned, owing to the large number of prospective competitors. Chevalier Florio protests this decision and suggests that the five entries of each make be allowed, three to be by the manufacturers and the other two by private owners who will pay their own expenses in the cup race.



THE PARTY ALL ABOARD



AT PARADISE SPRINGS



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IT IS TIME TO CHANGE



WHEN the American automobile track racing season opened at Brighton Beach, the accidents on "Calamity Curve" warned everyone concerned with automobiling sport that the beginning of the end of mile-a-minute racing on half-mile-a-minute tracks is at hand. It is up to automobilists directly interested in the promotion of contests to determine the character of this end—whether it be a racing transplantation in which contests are removed to special speedways, or whether it is to be a racing disaster which will bring to a woeful close a sport that has outgrown its present facilities.

It was long ago demonstrated that automobile racing is too fast for the tracks upon which it has been held. Frequent accidents and the great difference in time made by the same cars on such tracks and on the same straightaway stretches, are all that is needed to prove this statement. There is no doubt and no argument in connection with it. The only problem to be faced is that of the removal of the sport to suitable courses before some one great disaster, or a string of fatalities, brings public condemnation and censure so forcibly upon the head of automobiling that the whole sport will be given a permanent fracture of the skull.

At present there is only one speedway in the country actually fitted to the special purpose of automobile racing. It is not probable that other such speedways will be put into use this season. In fact it is hardly possible to construct many such speedways in time for the running of the meets scheduled for this summer. If track races are to be run in different parts of the country this season, they must be run on the regular horse tracks—the tracks which have proven unfit for such racing. They should not be run on such tracks another season, and there should be a dual effort this year to prepare for the summer of 1906—first by preventing by careful management accidents which will tend to put the sport into disrepute, and second by laying plans for the establishment in different parts of the country of proper racing courses over which a grand circuit of races may be run.

In the first instance there is work for the American Automobile Association as the parent body of the sport. Of course, the first responsibility rests upon the race meet promoter, but the support of the national association will do no harm, and may do much good in bringing about race meet management whereby the safety of both contestants and spectators is given serious consideration, and actual effort is made to render the factor of danger in track racing on mile ovals as small as the fixed con-

ditions permit. There is a moral responsibility in promoting any form of sport in which the public is so placed that exercise of caution on its part is necessary for its own thorough protection against harm. This responsibility is the assumption by the management of the authority to make the public do what it should have, but has not sense enough to do on its own behalf.

Barney Oldfield recently called the attention of the writer to the fact that in all instances in which racing cars have gone through the outer track fence, these accidents have occurred on the turns, and to use Oldfield's own conclusion to this fact: "Some-day a car will go through the fence on the home stretch, and then it will be all over with track racing."

Oldfield is right unless in every, and not only in a few, instances of track racing the management provides supplementary fences and police service whereby an open space of considerable width is maintained between the track fence and the front line of spectators for the entire length of the home stretch. This is one precaution. Another is the management of the track so that there will be no one on it, even at their own risk, with the exception of those actually engaging in the races and the few officials who must of necessity appear on the track. A third precaution is the division of large fields of starters into heats, so that in the scratch races of fast cars there will not be more than three on the track at one time.

MAKING NEW TRADE



AMONG those who buy automobiles for purposes of pleasure are two classes of customers. One is composed of persons who have already used automobiles and who are purchasing cars of new models to supplant or supplement their old machines; the other is composed of persons who have never before owned automobiles and in buying become additions to the motor community.

Among many agents the customers of the former class are considered the choicest brand, and a great effort is made to sell cars to such buyers. There is a possible doubt, however, of the advisability on the part of the trade generally in devoting the major portion of its time and effort to the cultivating of this custom at the expense of the attention given to selling new cars to new people.

Of course, it is true that just now the greater part of the sales of large touring cars are to people who have previously used smaller machines, and that, concomitantly, the sale of cars to people who have never before used automobiles means in most cases the sale of small and moderate size vehicles.

Hence there is a natural temptation on the part of dealers who have large cars to sell to cultivate the old buyer of new models. Thus the tendency of the new trade to limit itself is increased by the lack of effort made on the part of dealers handling expensive cars to go after it in preference to the trade of old buyers, and a condition is established whereby sellers of a certain class of vehicles create the trade that eventually becomes the patronage of the sellers of cars of the more expensive patterns.

This is a condition that cannot yield permanent profit. It tends to create a belief in the necessity of purchasing new models in order to be "in the game," and does not do anything to create popular confidence in the ability of an automobile to remain in active service for a period of years.

Sooner or later it is up to the automobile trade to establish the fact that automobiles are rational vehicles for rational everyday purposes, and that it is not necessary to purchase a new machine every year any more than it is necessary to so purchase a new carriage of the horse-drawn variety.

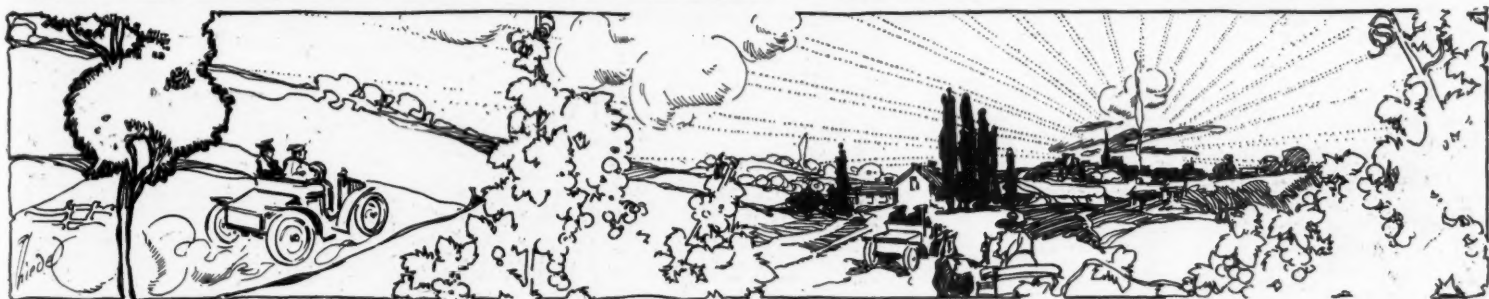
Automobiles will become vehicles classified by their patterns, such patterns being created to fill demands for all the different purposes of road vehicles. When this condition is brought about there will be no such thing as an automobile pastime in which the enthusiast spends a youthful or perhaps an adult fortune in the endeavor to be an up-to-date leader among automobilists.

Users of automobiles will discard their old machines and purchase new ones when the old cars become so shabby or out of repair that they do not render the desired service, just as users of horse-drawn carriages now discard their old models and purchase new ones when they feel that the old vehicles are no longer proper marks of their social status, or that they have become sufficiently delapidated to necessitate the purchase of successors. Some users of automobiles will purchase new models frequently, discarding the old ones while they are still in serviceable condition, because they have lots of money and can afford to possess equipages which always denote their financial stability, or emulation of such stability; others will get as much service out of a car as is possible without using them in actually delapidated condition, and still others will follow the example of the deacon who drove the "Wonderful one-hoss shay" and drive their machines until they literally fall to pieces.

Many dealers make the mistake of comparing the automobile trade to the bicycle trade. The bicycle was an original form of conveyance, not a new form of an established one. It did not pretend to be successor to any previously used vehicle. The automobile, on the other hand, is the natural successor of the horse-drawn vehicle in all its forms, and its permanent industrial and commercial strength does not depend upon its use as a medium of sport or pastime so much as upon its use as a vehicle of utility.

"New users" should be the war cry of the automobile retail trade. It is just as important that the automobile dealers advertise the automobile, as a vehicle in competition with the horse-drawn vehicle, as it is that they advertise their respective cars in competition with one another, and bandy about among themselves the customers already gained.

TRANSCONTINENTALISTS APPROACH MISSISSIPPI



FLOW THROUGH WESTERN MUD

Chicago, Ill., May 15—"Just one puncture, but a lot of mud," said Dwight B. Huss to the MOTOR AGE man as he was helped to clean the Fisk tired car with which he had already covered 1,100 miles since leaving New York last Monday morning and in which he expects to run about 2,500 more miles to Portland, Ore., the destination of the Fisk-Diamond transcontinental race and tire contest between him and Milford Wigle on the one side, and Percy Megargel and Burton Stanchfield on the other.

It was early morning, about 7 o'clock, when Huss and his companion drove into town, soaked and covered with mud, but nevertheless looking none the worse after having been on the road about 20 hours a day since leaving New York. Megargel arrived several hours later, having had some spark plug trouble. He, too, and his teammate were mud covered, and the car was painted with the mud of several states.

"Well, you see," said Megargel, "I am here, covered with mud, but here just the same. It's no joke to drive 1,100 miles over roads which are all right on the map but which in some instances are covered with water for scores of miles. It was often simply a matter of guess work as to whether we were on the road or in the fields, but it really did not matter much, as the car was inches deep in the mud, anyway. I had four punctures, and in each case a big nail was pulled out of the tire. Those were my only troubles, except those of ignition."

"The farmers all over the country traversed seemed interested in our race, and were generally ready to assist us. We, on the other hand, never attempted to drive fast past horses, and repeatedly stopped to allow farmers to pass safely. When we reach Omaha we will take sand tires, firearms and cans of gasoline with us, as there we enter the difficult part of the run. There has been no attempt thus far by either Huss or myself to outrun each other. We will probably begin the real contest in a few days, as a matter of \$1,000 is involved, and that is worth while going after."

"I hope to get first into Portland," said Huss. "Thus far we have had it comparatively easy, but out there in the western states, far from towns and villages, it will be a different

thing. We are going to Davenport, Ia., from here; thence to Des Moines, Omaha, Cheyenne and Boise. We enter Oregon at Ontario, and then will drive to Portland by way of Vale, Burns, Pineville and Salem."

A feature of this transcontinental race is the observations which are being made about the roads by James W. Abbott, of the bureau of road inquiry of the department of agriculture. He travels toward Portland by rail, stopping in many towns to secure all possible information about the roads. Said he: "I will be one of the speakers at the National good roads convention, which will be held in the Oregon capital in June, and will make a detailed report before that body concerning the highways between New York and Portland. It is one of the most important questions now before the public, this good roads problem."

EDITOR'S NOTE—Motor Age has engaged Dwight Huss, driver of the car fitted with Fisk tires, to write the story of the journey exclusively for it. Mr. Huss is accompanied by Milford Wigle. The car fitted with Diamond tires is piloted by Percy Megargel, whose companion is Burton Stanchfield.

MOTOR AGE MAN AHEAD

Mendota, Ill., May 16—Special telegram—Zip, biff, bang! Say, did you ever ride in an automobile through mud and more mud without guards? You don't want to. The run from Chicago to Aurora yesterday was made without other mishaps than a few bad skids. The outlook is not very promising at the present, as it is raining hard. Rain, mud, mud, rain, is the program. We went on our low gears for 5 miles with the terra firma up to the hubs.

Today we took dinner in Earlville, with a thunder shower going on outside the hotel. We had passed Megargel a few miles back. I guess he had a short circuit. I saw Stanchfield on his back under the machine, and it looked as though he needed a boat in which to get out of the water and mud.

Wigle is a hero. We met a runaway horse with two women in a buggy, and as the horse tried to dodge our car Wigle jumped and caught him by the bridle. It was one of the prettiest and most daring feats I ever saw, and we have all decided to give him a medal for his bravery.

We reached Mendota at 7:30 this evening. Megargel has not arrived. The roads are in terrible condition. The farmers say it has rained here every day for the past 2 weeks, and I certainly believe it. It is "me for the tall grass," and along the fences is the only place where there is not any mud. The report is that there are better roads ahead. I hope it is true.—DWIGHT HUSS.

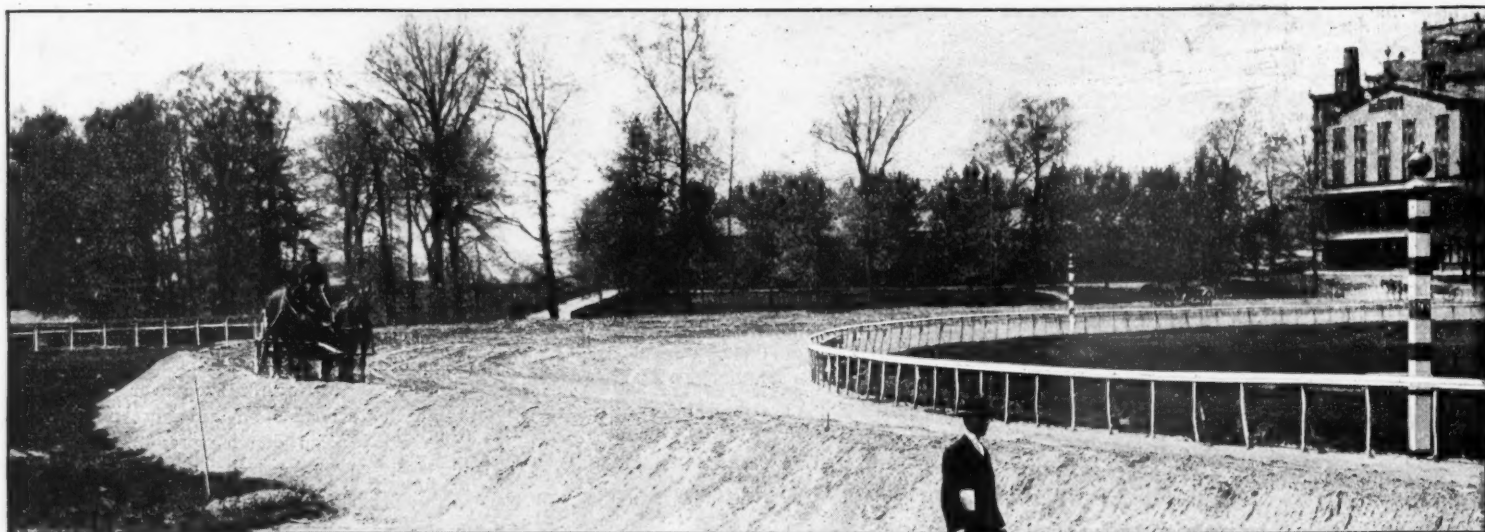
Sheffield, Ill., May 17—Special Telegram—We left Mendota at 6:30 this morning after spending an hour digging some of the mud out of our engine. There was a good roads convention at Mendota a few days ago but it did no good as the farmers thought they would have to shoe their horses too frequently if the roads were hard. The roads to Lamoille were terrible. I never saw any much worse but after we left Lamoille we struck gravel roads to Princeton, which were very good considering the rain. We arrived an hour ahead of Megargel but he arrived before we left.

I bought some gasoline at Mendota but it was poor as I found out on the bad roads. We passed Wyanet and reached Sheffield without mishap, but here ends the gravel road—but it's on to Davenport.—DWIGHT HUSS.



THIRD ANNUAL TEST OF BENNETT CUP RACE CANDIDATES BY THE A. C. A.

ROSY PROSPECTS EAST AND WEST



BANKING A TURN OF THE AUTOMOBILE TRACK AT MORRIS PARK

METROPOLITAN PLANS

New York, N. Y., May 16—The entries for the opening meet at Morris Park close today and the ones received assure splendid all around racing. There has been a change of the driver and car which are to meet Barney Oldfield in the feature event of the meet. It having been found impossible to get the de Dietrich car that Harry W. Fletcher was to drive ready in time, Charles Basle and the 90-horsepower Bowden Mercedes, which secured the world's track records at Providence last year with this driver at the wheel, has been substituted.

The contestants in the free-for-all at Morris Park on next Saturday are a notable bunch and are as follows: Barney Oldfield, Green Dragon; Charles Basle, 90-horsepower Bowden Mercedes; Louis Chevalet, 90-horsepower Wallace Fiat; Guy Vaughan, 40-horsepower Decauville; Walter Christie, 60-horsepower Christie; W. F. Winchester, 50-horsepower Green Franklin, and Webb Jay, 50-horsepower White steamer.

The entries for the first amateur race to be run under the new A. A. A. rules are: Major C. J. S. Miller, 40-horsepower Renault; George Isham Scott, 60-horsepower Mercedes; Richard Stevens, 60-horsepower Mercedes, and Walter Christie, 60-horsepower Christie.

Over thirty entries have been received for the open events. Boxes and seats are in great demand and a notable meet is likely to occur.

Charles H. Hyde, president of the Brighton Beach Automobile Club, which promoted the recent meet at the track by the sea, denies the reports printed on the basis of a press notice sent out by John R. Eustis, former manager of the club, that on account of the accidents to Paul Sartori and Joe Nelson on the bad turn of the course no more meets would be run at Brighton Beach.

"Both of these drivers," says Mr. Hyde, "have stated that the track was in first-class condition and that their accidents were in no way owing to the condition of the track. While the club is not at this early date ready to make its announcement of future events, due solely to the fact that the American Automobile Association, whose sanction is required, has not yet acted upon our application for dates, it certainly has not determined to hold no further races at the Brighton Beach track this year."

Considerable friction is known to have arisen between President Hyde and Manager Eustis over the outcome of the meet. Eustis maintains that he was justified by Hyde's statements to him in sending out the notice he did. Hyde and Eustis have split and it is understood that the club is looking for another manager.

The damage to the Lightning Bug at Brighton Beach was not serious and will be repaired in ample time for Joe Nelson to make another try for the records up to 3 miles at the Empire City meet on May 30. The Lightning Bug, by the way, will probably be subleased to a new manager, who will make a round of the circuit.

Charley Duerr has unbounded confidence in the all-around hill climbing and speed merits of the Royal-Tourist, and has accordingly boldly advertised a \$500 challenge to any American-made regular stock car, regardless of price, to compete on May 20 with the \$3,000 Royal-Tourist stock car, which won the Brighton Beach handicap last Saturday under the following conditions: Cars to climb Fort Lee hill and immediately thereafter go to Morris Park race course and compete for 2 miles on the Morris Park track without any change being made in equipment of cars; cars to carry five people, weighing not less than 700 pounds; competing cars to be exact duplicates in construction of same make and model of cars sold and delivered to the public. It is to be understood that to win the \$500 bet the victor must prevail in both the climb up the hill and the race on the track. Should a car win the one and lose the other the result will be considered a tie.

Six events are scheduled for the Decoration day meet on the Empire City track at Yonkers. The first is a 5-mile race for the Diamond challenge cup. The second event is a 2-mile dealers' handicap in which the cars are handicapped by price. The third race is a 5-mile free-for-all for the Yonkers cup; the fourth a 5-mile handicap for the Empire cup; the fifth a 3-mile race for cars weighing between 881 and 1,432 pounds; and the sixth a 3-mile race for touring cars costing \$2,500 or less, each car carrying three passengers in addition to the driver, and cars to line up with "dead" engines, engines being started after the starter's signal. Entries for the meet close May 22, with Frank J. MacKain, 390 Washington street, New York.

CHICAGO'S SUCCESS ASSURED

Chicago, Ill., May 16—If the skies do not leak May 27, 29 and 30, the 3-day race meet of the Chicago Automobile Club, terminating on Decoration day, will be the biggest affair of its kind this spring, and possibly this season. An all-star aggregation of speed merchants is assured by actual entries now in the hands of the racing committee of the club. The track has been put into record breaking condition, and should be as fast as it is possible to make a 1-mile horse track. All of the detail arrangements of the meet are progressing rapidly or have been completed. The city of Chicago is being billed as never was an automobile race in this country billed before. The grand stand and grounds, as well as the track, at Harlem where the meet is to be held, are being given a spring house-cleaning that not only includes features for the comfort of the spectators, but for their safety as well. A high wire fence is being built about 20 feet back of the track fence the length of the home stretch, and no spectators will be allowed between this fence and the track.

The officials of the meet have been carefully chosen, and, inasmuch as most of them are men experienced both in automobile and bicycle race management, it is assured that the track will be handled exceptionally well, and that no one will be allowed upon it except the necessary participants in the sport and its management. Every effort is being made to set a new standard of track race management, both for the safety of the spectators and for the general good of the sport in the west.

St. Paul will send a large delegation, including racing contestants, to the meet. The St. Paul club and, of course, all of the smaller clubs in the vicinity of Chicago will be well represented. The list of contestants is growing rapidly, both with respect to local entrants and to the drivers of faster craft who will compete in the \$1,000 cash, the open and the handicap races.

At present the list of free-for-all eligibles includes Barney Oldfield, with the Peerless Green Dragon; Carl Fisher, with the Premier Comet and the new Pope-Toledo track racer; Henry Ford and the Ford six-cylinder racer; Dan Canary and the new Thomas six-cylinder racer; Eddie Bald with the Columbia racing car if finished, and if not, with the fast Columbia stripped touring car; Earl Kiser with the Tincher 80-horsepower car, which promises

to be one of the speed surprises of the season; Webb Jay with the White steamer, and R. W. Harroun, of Chicago, with a new light track racing car now being completed.

This is probably one of the biggest fields of record class cars which will be brought together this summer at one meet, and the fight for the \$1,000 purse should be a lively and closely-contested speed battle.

Word has been received from New York that the Thomas Inter-club trophy has been formally accepted by the A. A. A. and that the A. C. A. will send a team of two—Walter Christie, driving the Christie, and Major C. J. S. Miller, driving his Renault, to contest with the Chicago Club team for the cup.

NATIONAL CIRCUIT PLANNED

New York, N. Y., May 16—It has been decided to form a national circuit of meets, which shall include in their program championship races and a free-for-all for the determination of the champion car and driver of the United States. The following bulletin from the racing board sets forth the scheme of the circuit:

The track motor car championship of 1905 will be decided on the national circuit by a point score. In order to become eligible for this championship series, an entrant must obligate himself to compete at all circuit meets as long as his point score places him in first or second position in the championship table.

There will be added to the cost of a regular sanction \$25, and the entire amount obtained in this manner will be expended in the form of a special trophy, to go to the owner of the car scoring the greatest number of points during the circuit.

The free-for-all championship race will be open to machines of all recognized types and weights, with the first prize not less than \$150, in cash or plate at the option of the winner. The distance of the race shall not be less than 5 nor more than 10 miles. The winning car will be credited with four points, the second with two points and the third with one point. The circuit dates as at present arranged are as follows:

June 10—Morris Park, N. Y.
June 16, 17—Hartford, Conn.
June 21—Baltimore, Md.
June 24—Philadelphia, Pa.
June 28, 29—Pittsburg, Pa.
July 3, 4—A. A. A. meet, Morris Park, N. Y.
July 22—Empire City track, New York.
August 1, 2—Grand Rapids, Mich.
August 4, 5—Detroit, Mich.
August 11, 12—Cleveland, O.
August 18, 19—Buffalo, N. Y.
August 26—To be granted.
September 4—Boston, Mass.
September 9—Providence, R. I.
September 23—Morris Park, New York.
September 29—Poughkeepsie, N. Y.
September 30—Empire City track, New York.

DISASTER ENDS RACE

Trans-Mediterranean Contest Motor Boats Caught in Storm and All but One of Them Lost

Toulon, France, May 12—Special cablegram—Disaster marked the second stage of the Algiers-Mahon-Toulon motor boat race. When the seven boats started from Mahon the weather was fair and there was no indication that within a few hours a tempest and hurricane would meet the racing boats. All had been well prepared for a struggle with the seas, it was thought, but now six of the seven are at the bottom of the Mediterranean, while Fiat X is the only one it was possible to save from the vengeance of the elements.

Had it not been for the torpedo boat destroyers and the other navy vessels none of those aboard the seven motor boats would have been saved. In fact, it was with greatest difficulty that the French sailors were able to rescue the crews of the racers. The rescue of Madame du Gast, who was steering Camille, was one of the most thrilling and difficult life saving attempts ever made.

After most of the other boats had been given up and their crews taken on board the destroyers which accompanied them Camille, Quand Meme and Mercedes C. P. were still struggling with the angry waves. Camille happened to be in a zone where the hurricane was at its height and repeated attempts of the torpedo boat destroyer to throw ropes to her failed, it not being possible to get near enough. This struggle lasted a long time, during which the officers of the cruiser Kleber, which was within a few miles of the scene, kept close watch and was in constant wireless communication with the destroyer. When it finally became evident that the latter boat could not possibly render the needed assistance the Kleber undertook the task. When the Kleber was within 40 yards of Camille ropes were thrown, but none was caught by those on board the motor boat. It became noticeable that Madame du Gast, Mr. Menier and the mechanics were becoming exhausted, and the commander of the warship decided on a different method of rescue. Orders were given to run the cruiser into the motor boat, and several life saving boats on the Kleber were made ready. A rope ladder was also lowered, and this Madame du Gast caught as the cruiser rammed the racer. A

cheer went up from the sailors, but before the French sportswoman had climbed half a dozen steps up the ladder her strength gave up and she fell into the sea. Several sailors jumped into the water and one caught and tried to carry her up the ladder. The effort was too great, however, and both fell, exhausted. Other sailors jumped into the sea and with the aid of ropes a rescue was effected.

Another difficult rescue was that of the crew of Quand Meme by the destroyer Arbalete, which had trouble itself in reaching a harbor. After drifting several hundred miles the destroyer reached the island of Sardinia with Duke de Cazes, owner of Quand Meme, and all her crew.

HONORS FOR DARK HORSES

Paris, France, May 2—In the 3-day reliability trial of the Automobile Club of Touraine the principal prizes were won by Aries, Brouhot and Delahaye cars. It is another instance in which automobiles relatively unknown by the majority of foreign automobilists have won competitions where speed is secondary to endurance at a prescribed average speed and to hill-climbing ability.

There were four distinct competitions, the first being a 250-mile endurance run, the second a hill-climbing competition up a 500-meter 10 per cent average grade, a regularity competition, and a 500-meter speed trial on level road, with standing start and finish.

There were twenty-nine starters in the endurance test, but owing to a thunderstorm of great severity which broke loose while the third of the four circuits was being started only thirteen cars completed the whole distance of 250 miles. A 20-horsepower Brouhot made the fastest time, 7 hours 22 minutes, thus averaging 34 miles an hour. A 40-horsepower Brouhot was second in 7 hours 23 minutes; a 30-horsepower Aries, third, in 7 hours 40 minutes; followed 10 minutes later by a 14-horsepower Boyer; then came an Aries, Brouhot, Delahaye and Aries.

In the hill-climb the 30-horsepower Aries climbed the 500 meters—about $\frac{1}{3}$ of one mile—in 42 seconds; another Arie was second in 46 seconds, and then three Brouhot cars. The Aries also were the fastest machines in the 500-meter speed trials, finishing first and second, while the Brouhot cars took third and fourth place. In the regularity contest the following cars scored the same number of points each: Delahaye, Aries, de Dion-Bouton, Brouhot, and Boyer.



RUSHING THE WORK OF MAKING MORRIS PARK TRACK READY FOR THE MOTOR RACERS

VANDERBILT CUP RACE TEAMS

CANDIDATES FOR POSITIONS ON AMERICAN VANDERBILT CUP RACE TEAM

ENTRANT	CLUB	CAR	DRIVER
Colonel A. A. Pope, Boston.....	Hartford	50-h. p. Pope-Toledo	Probably H. H. Lytle.
A. L. Pope, Hartford.....	A. C. A.	50-h. p. Pope-Toledo	Possibly B. H. Dingley.
Dr. H. E. Thomas, Chicago.....	A. C. A.	80-h. p. Locomobile	Not selected.
C. W. Matheson, Holyoke, Mass....	A. C. A.	40-h. p. Matheson	Tom Cooper.
L. H. Palmer, Brooklyn.....	Long Island	40-h. p. Matheson	Not selected.
J. L. Breese, New York.....	A. C. A.	60-h. p. Christie	Walter Christie.
G. A. Weldley, Indianapolis.....	A. C. A.	60-h. p. Premier	Entrant.
Elwood Haynes, Kokomo, Ind.....	Chicago	50-h. p. Haynes	Frank N. Nutt.
E. H. R. Green, Dallas, Tex.....	A. C. A.	50-h. p. Franklin	Probably W. F. Winchester.
E. D. Shurmer, Cleveland.....	Cleveland	38-h. p. Royal Tourist	Robert Jardine.
W. T. White, Cleveland.....	A. C. A.	50-h. p. White (steam)	Probably Webb Jay.
Harry Hought, New York.....	Buffalo.	6-cyl. Thomas	Mortimer Roberts.
S. T. Davis, Jr., Bridgeport.....	A. C. A.	80-h. p. Locomobile.	Possibly Joseph Tracy.

New York, N. Y., May 16—In addition to the Thomas Bennett cup candidate, the Locomobile Co. of America will be represented in the Vanderbilt cup race by a car entered by S. T. Davis, Jr., through the Automobile Club of America. It is an 80-horsepower Locomobile, which the company will start at once to build along the lines of the Thomas car, with such improvements as the recent try-out of the Thomas car may suggest. The entry came in this morning's mail along with the nomination of a six-cylinder Thomas Flyer by Henry S. Hought, of this city.

The Royal Motor Car Co., of Cleveland, has entered a Royal Tourist for the American race. The car entered is not a specially built racer, but a car equipped with a regular Royal Tourist 5 by 5½-inch, four-cylinder motor. It will be as light in construction as feasible for such use. The car will be driven in the race by Robert Jardine, who may also pilot it in races at the various track meets during the summer.

Four national clubs—France, Germany, Italy and the United States—have declared their intentions to be represented by teams and have paid the entry fees for five men each. Chairman Morrell, of the racing board, received yesterday from the German club the names of its entrants as follows: John B. Warden, Robert Graves, Foxhall P. Keene, Clarence Gray Dinsmore and Baron de Caters. All of these, save the last named, are Americans. Mr. Dinsmore resides most of the time in Paris and was the entrant of the Mercedes driven by Werner in the last Vanderbilt race. Mr. Keene drove a Mercedes on the German team in the Bennett contest in Ireland and has been a competitor in several of the great European road races. Messrs. Warden and Graves are new to the racing game.

The personnel of the French team will be decided by the result of the eliminating trials for the Bennett team, on June 16.

The Automobile Club of Turin, the national organization of Italy, has authorized Hollander & Tangerman, of this city, to choose a team. They have paid entry fees for five Fiats and announced that William Wallace, a Boston amateur, and Cedrino and Lancia, Italian professionals, have been chosen to drive them and that from future purchasers of Fiats will be elected the two remaining members of the Italian team.

There have been thirteen nominations of American cars. Their details appear in an accompanying table. The present plan of the commission is to hold eliminating trials in August on the course as amended and finally chosen for the Vanderbilt race, whose date has been set for October 7 or 14. Now that the

entries have closed it is permitted to state that it is probable that those failing to qualify for the American team will have some part, possibly small, of their entry fees returned to them.

"The amount," said Chairman Morrell today, "will depend on the cost of the eliminating trials. We did not care to have it given out before the entries closed that entrants might expect any rebates. We wanted only genuine entries of those confident that their cars had a chance to win and willing to put up \$500 to back their chance. We wished to leave no loophole for any possible entries merely for advertising, to be followed by a withdrawal at the last hour. This precaution may not have been necessary, but we wished to let the public and the foreigners see that our entrants meant business."

TWO-DAY MEET AT HARTFORD

Hartford, Conn., May 15—A 2-day race meet has been planned for June 24 and 25, to be given at the Charter Oak park track, and a guarantee expense fund of \$2,000 has been subscribed by several prominent men of the city. As the Automobile Club of Hartford is not very strong financially, the project was taken up by individual motorists, who formed a small company, headed by J. Howard Morse as president, and Will Plimpton as secretary and treasurer. Col. L. E. Heublein, L. C. Grover and a few other local sportsmen joined the company and subscribed toward the fund of \$2,000, which is to be only a part of the total amount which will be forthcoming. C. H. Gillette, ex-secretary of the American Automobile Association, was the organizer. Efforts will be made to secure Oldfield, Kiser, Christie and other well-known drivers, besides the local amateurs.

THOMAS CAR WILL RACE

New York, N. Y., May 17—Special Telegram—There is great rejoicing here that the slight misunderstanding which a few days ago led Dr. Harold E. Thomas to withdraw his car from the American Bennett team has been eliminated and that the Chicagoan's fine racing machine will, after all, do battle for this country in the international race. At this end of the line the reason for his action was clouded in mystery. Now that he has proven his patriotism and sportsmanship, the episode will soon be forgotten and his car will cross the water with the best wishes of New Yorkers for its owner and his success. His donation of the challenge trophy, which was accepted yesterday by the American Automobile Association, will still further add to his prominence and popularity.

Your correspondent had a talk this morning with A. L. Riker, designer of the car, over the long distance phone to the Locomobile factory at Bridgeport. "As you may imagine," said he, "we were delighted to get Dr. Thomas' wire late yesterday afternoon informing us that he had telegraphed Chairman Scott canceling his withdrawal and ordering the car shipped to France. In the evening he called me on the long distance phone and we had a very satisfactory talk. The car will be shipped from New York to our factory for final inspection and packing. Of course, there has been some delay, but we will ship the car just as soon as possible. We have already complied with requirements as to mileage and speed per hour, and can easily complete the conditions by driving the engine 250 miles without stopping. We will ship to France complete sets of duplicate parts so as to be prepared for any accident during the preliminary tuning up. Dr. Thomas' cancellation of his withdrawal will not prevent our making good our own entry to the Vanderbilt race. We will build an 80-horsepower car of our own, as we are in duty bound to do by our formal entry."

TOLL ROAD MADE FREE

Cincinnati, O., May 15—Judge Berry, of Newport, Ky., has invited every automobilist in the country to take a spin over the Alexandria pike, from Newport to Alexandria and back, and enjoy 32 miles of the finest scenery in Old Kentucky, while speeding over a perfect macadam road, absolutely free of toll. This invitation comes in a decision welcome to automobilists, that they need not pay toll on turnpikes because automobiles were not in existence when the charters were granted and therefore cannot legally be charged for.

About a year ago the turnpike company raised the toll to the almost prohibitive rate of 1-cent a mile per horsepower. They did it because some idiot raced over the pike a time or two and scared horses and killed chickens and dogs. They then decided to punish all automobilists for that fellow's misdeeds and slapped on the big toll. Oscar Barret brought suit, backed by the Automobile Club of Cincinnati. He thought a toll of \$7.68 for a 24-horsepower car for 32 miles was too much, even if the road is well kept and the scenery majestic, throughout the entire distance.

Trying hard to prove that automobiles are traction engines, for which the charter provides heavy toll, because the wheels injure the pikes, ex-Judge John T. Hodges, himself an enthusiastic automobilist, but also a heavy stockholder in the turnpike company, fought every inch of the case and lost, as Judge Berry decided that automobiles and traction engines are quite different.

WRIDGWAY ENTERTAINS

New York, N. Y., May 14—Charley G. Wridgway gave a dinner at the Criterion last night to the mechanics who assisted him at the recent 1,000-mile record trial. Fifteen of them were present. Among the other guests were S. F. Randolph, C. F. Splitdorf, John R. Eustes, and Fred J. Wagner. Wridgway made a graceful speech of acknowledgment. Splitdorf made a happy response. Roy Wasson had something interesting to tell. "Wag" told the story of the run. Randolph acted as toastmaster.

SWISS TEAM DOUBTFUL

Club and Makers in Wrangle Over Payment of Bennett Race Assessment—Course Dangerous

Paris, France, May 4—Switzerland may not be one of the nations competing in the Bennett cup race, although two of the three Dufaux racers are completed. At the Paris congress of automobile clubs it was decided that foreign clubs are to contribute \$5,000 each toward defraying the expenses of the race. The Automobile Club of Switzerland asked the Dufaux brothers to put up the Swiss \$5,000, and the latter have protested, claiming the club should furnish this amount as they have enough expense of their own in making the racers, getting ready and running them. Should the Swiss club insist the Dufaux brothers will probably appeal to the Automobile Club of France and to the other competing clubs for permission to compete as individuals.

William Stead, who has gone over the Auvergne circuit several times, says: "It will be anything but a race. The man who wins will be he who has studied the circuit most thoroughly, and has an enduring car with exceedingly powerful brakes. As to the chances the drivers have I will say that I don't see any for those who start last, inasmuch as there are only five places where cars can pass one another."

Jenatzy, while in Paris a few days ago, gave his impressions of the cup race course. "Not an easy one, I assure you," said the Belgian driver of the German cup challenger. "The turn at Rochefort is so dangerous that one will not think of trying to take it rapidly. There are plenty of other sharp turns and numerous windings which make this circuit dangerous. It will be a most tiresome trial and the drivers will need a lot of previous training to withstand fatigue. I went over the circuit six times and the best time I could make was a little better than 1 hour 40 minutes for the 85 miles. Now, this being done while the roads were comparatively free from other vehicles, I doubt that it will be possible to travel at 50 miles an hour on the day of the race."

Albert Clement, one of the French drivers in the eliminating race, wrote to a friend from Clermont-Ferrand as follows: "Race drivers around here are now like gods. The farmers take their hats off when we pass them. I have gone over the circuit many times at a fast rate of speed and find it extraordinarily difficult. There are just three straight pieces of road, not even a mile long each, on the entire circuit of 85 miles. Needless to say this means great fatigue for the driver, who has to drive over successions of windings, taking turns in quick succession, changing speed, applying brakes, reversing, almost continually from the start. It will be almost a continual cake walk. I think it will be impossible to average more than 75 kilometers—46½ miles—an hour."

Rigolly, in a Gobron-Brille stock car, went over the circuit several times lately, and, although one of the most daring among European drivers, was much impressed with the difficulties of the cup course. He said: "I went once around the course slowly to count the turns. There are several hundred of them, but I noted 145 as especially difficult. It is a

most tiresome course, and I doubt that an average of 50 miles an hour will be made. It certainly is an excellent course for a tire, brake and gear test." Rigolly also stated that there are several sections where it will be impossible for one car to pass another without running off the road, as there is not enough space for two cars to be driven abreast, while at the same time the leader can easily drive in such a way as to prevent anyone passing.

Szisz, one of the Renault drivers, says that there are three exceedingly difficult turns, the one at Laqueuille being the most dangerous. He thinks that a driver who will cover the course on an average in 1 hour 40 minutes will have a good chance to win the race.

Duray went over the circuit in a de Dietrich. "Terrible, simply awful. It will be no easy task," said he. "The down grade in coming back to Clermont will probably prompt some of the drivers to take chances by going fast. Beware. It is a most dangerous section of road. Alexander Burton was with me when we drove over that part of the road at a fast pace, and I assure you we had to use all our strength to prevent being thrown out of the car. I hardly think that anyone will be able to drive at more than 75 kilometers an hour over this road."

The Paris sporting daily, *l'Auto*, is now urging that one neutralization be established near Volvic, as from that town to Clermont-Ferrand there is a continual winding of the road for nearly 10 miles, and according to many of the drivers who have gone over the course it will be easy for any driver to run on this part of the circuit so as to prevent a competitor from passing. It is suggested that cars should be made to stop at least 4 minutes before venturing on this section.

Hundreds of men are occupied in fixing up the roads. There is still much to be done, but within a week, if it is found that the work will not be completed in time, it is likely that a night force will be added. At a recent meeting of the general council of the province in which the course is located \$10,000 was voted for immediate use in connection with the road improvement work.

It has been decided that 7,500 soldiers and 1,200 gendarmes will be needed to guard the course. The gendarmes will receive 50 cents per day. The troops will be stationed on the road at 2 A. M., and it is estimated that they will stay until 3 P. M. The railway expenses to bring the troops and take them back to their garrisons will be \$6,000.

The Automobile Club of Great Britain and Ireland has suspended J. Lisle for an indefinite period and Bianchi for 1 month for having caused automobile accidents. Both drivers were to drive British cars in the eliminating race and a great many motorists have already protested against the club's decision, claiming that the suspension ought to be lifted in order to enable the men to drive in the race.

DE KNYFF INJURED

Paris, France, May 15—Special cablegram—It is reported that yesterday Rene de Knyff, president of the sports committee of the Automobile Club of France and a member of the concern of Panhard & Levassor, was injured while driving over the Auvergne race course at a high rate of speed. The automobile collided with a team.

ENTHUSIASM IS GREAT

Twin Cities Gleefully Subscribe and Make Other Arrangements To Give Visitors a Good Time

St. Paul, Minn., May 15—Big things are doing in the local automobile field, and interest in the Chicago-St. Paul run keeps much alive. B. A. Ledy, of the St. Paul Automobile club, returned from a trip to Chicago Saturday and stated that preparations were far advanced for the start of the long run. The local club has collected all of the money subscribed for the advertising of the event and the entertainment of the visitors, and the campaign of publicity is going forward at a great rate. Assurance of the presence of several prominent racing men has added to the interest in the 2-day race meet.

A number of local cars will join in a preliminary run over the course, to start within a few weeks. Mr. Ledy and others who are directing the work of preparation will be in the exploration party, and every foot of the ground in the 500-mile course will be carefully examined. Route maps will be prepared to show the exact condition of the roads to all tourists. The route determined upon is expected to furnish the best possible roads between the two cities. The road follows the Mississippi river for a part of the distance where the back roads are dangerous, and in case wet weather is encountered the river may have to be followed for a still greater distance to keep out of the clay of Iowa. The route as now planned is as follows: Through Rockford, Freeport, Dubuque, Independence, Cresco, Austin, Owatonna, Fairbault, to St. Paul and Minneapolis.

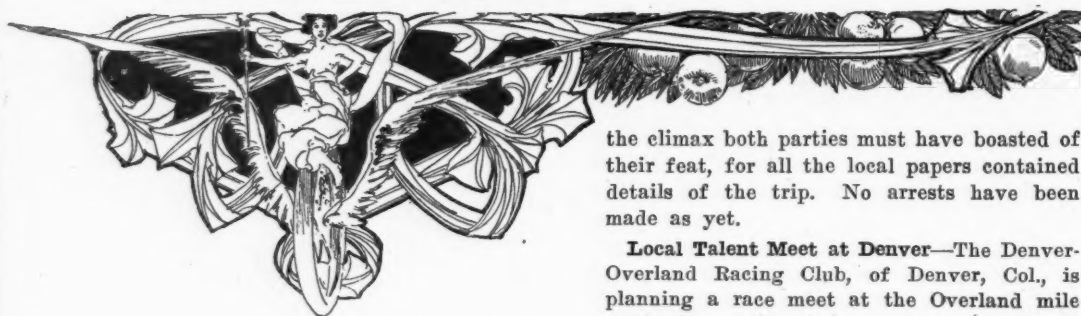
The program for Minneapolis day during the week following the run has been filled in an unexpected manner. Horace Lowry, son of President Lowry of the Soo road, and of the Twin City Rapid Transit Co., last week asked the Minneapolis Automobile Club to allow him to entertain the visitors on the day to be given to Minneapolis. Mr. Lowry proposes to throw open the Tonka Bay hotel, at famous Lake Minnetonka, and give over everything to the entertainment of the visiting automobilists. The Tonka Bay house is the largest at the lake.

The run will be made from Minneapolis early in the morning, the visitors being accompanied by the St. Paul contingent and 500 or 600 machines from Minneapolis. Mr. Lowry informed the Minneapolis Automobile Club that he would prepare to take care of 2,000 visitors, and from present indications his hospitality will be taxed to the full extent.

Minneapolis owners of big cars are preparing to take a lively part in the races at Hamline track. A. C. Bennett, northwestern Winston agent, returned from the factory at Cleveland last week and stated that he expected to have a Bullet on hand for the races.

Work is being rushed on the macadamizing of the Minnetonka road, and it will be in excellent shape by the time the visitors arrive. The roads about the Twin Cities are expected to be good in July, and all of the short trips to be taken by the visitors will be over the best of highways to be found anywhere in the state.

COMPETITION CONFETTI



After Pike's Peak Glory—H. D. Ryus and F. C. Fenner, both of California, are reported to have entered their cars for the Pike's Peak climb.

Rockford's Borrowed Track Meet—Ten events are scheduled to be run at the race meet which will be held July 4 on the fair grounds of Beloit, Wis., under the auspices of the Rockford Automobile Club, of Rockford, Ill. Most of the races are for stock cars. The prizes aggregate \$1,000.

Plan Street Races—Automobile races and trials against time are being planned by the merchants of Brazil, Ind., who intend to hold the meet on Main street, some time this summer. If the permit is granted by the authorities the street will be fixed up for the purpose and roped off at cross streets.

Buffalo Gets Dates—Officers of the Buffalo Automobile Racing Association have received word from Secretary Batchelder of the A. A. A. that August 18 and 19 will probably be set aside for races at the Kenilworth track in that city. The Cleveland meet will be held the Saturday before the Buffalo meet and there probably will be races at Pittsburg during the week, so a large number of good drivers should be easily secured for the Buffalo races.

Block Hill-Climb—Councilman West, of Pittsburg, and his friends are making such a strenuous fight against the hill-climbing contest to be held on Hebberton hill that it is probable that the affair will have to be abandoned or another hill selected. Talley Cavey, a long hill near Butler, on the plank road, has been suggested, but no action has yet been taken by the Pittsburg Club. Hebberton hill is central and the only objection raised by the politicians is that children playing on the hill may get in the way of the cars.

Laugh at the Laws—Despite the numerous legal restrictions and the efforts of the Automobile Club of Philadelphia to prevent just such infractions of the law, the New Jersey automobile speed regulations were twice badly fractured last week by irresponsible millionaires, who seem to think that the Philadelphia-Atlantic City route is a race course. On Wednesday George W. Childs-Drexel and Dr. and Mrs. Alexander Biddle—the latter relatives, by the way, of the Edward Biddle who advocates the taking away of licenses for one year of any operator who exceeds the legal speed limit—made the run under 2 hours, and the next day Major A. C. Quay, son of the late senator of Pennsylvania, did the same trick in about 2 hours even. This represents an average of at least 30 miles an hour, and means that at some stages of the journey the travelers were doing something like 50 miles an hour. To cap

the climax both parties must have boasted of their feat, for all the local papers contained details of the trip. No arrests have been made as yet.

Local Talent Meet at Denver—The Denver-Overland Racing Club, of Denver, Col., is planning a race meet at the Overland mile track, Decoration day.

Wants Special Track—J. W. Cassidy, of the Quincy Automobile Co., of Quincy, Ill., is reported to have said he would contribute \$5,000 towards a fund to be used for building a race track on which automobile races could be run several times during the season.

After Frog-Eater's Scalp—Paul Meyan, the editor of La France Automobile, not having accepted the conditions made by J. D. Siddeley, the British manufacturer, for a Franco-British reliability trial, has been challenged by S. F. Edge, who says he will drive a Napier, and comply with all the conditions made by the Frenchman.

Dead Horse Hill-Climb—The hill-climbing contest which is to be held on Dead Horse hill, Worcester, Mass., Saturday, May 25, promises to be an interesting event according to local reports. Many entries have been received and the Worcester Automobile Club, which is promoting the event, expects that a large number of out-of-town contestants will be present. The course is about a mile long, an average grade of about 9 per cent,

AFFAIRS OF THE CLUB MEN

In Western Illinois—Nine motorists of Monmouth, Ill., have organized the Monmouth Automobile Club. J. S. Brown was elected president and Allan Pattee secretary and treasurer.

Committees Appointed—Committees on tours, races, rules and regulations, membership and executive affairs were appointed recently by President P. E. Somers, of the Grinnell Automobile Club, of Grinnell, Ia.

Race Club Has Half-Thousand—The Automobile Club d'Auvergne, France, has now nearly 500 members. Nearly half of these members joined the club on account of its connection with the French eliminating race and the Bennett cup race.

Tours in Delaware—The feature of the meeting of the Delaware Automobile Association, held in Wilmington, Del., last week, was the discussion of the new automobile law. It was decided to appoint a committee to arrange a number of tours. Six new members were admitted to membership.

To Build Sample Road—The Iowa Automobile Club, with headquarters in Des Moines, Ia., had a busy session last week. It was decided that an appropriation should be made for the construction of a sample of good road. A committee was also named to meet the city council and urge the immediate passage of the ordinance, which has been pending for many months and which deals with the tearing up and repaving of streets by plumbers. There will be a parade May 29 and a hill-

and a maximum of 17 per cent. There will be eleven events, nine of which are for gasoline cars, one free-for-all and one for steamers. In six of the nine events for gasoline cars the vehicles are divided into classes according to the price, while in the three other events the classification is made according to weight.

Motor Boat Race Series—The Power Boat committee of the Riverton Yacht Club, of Philadelphia, has outlined a program for the coming season which promises to keep the motor boatmen of this vicinity busy until the 10th of September. It includes five separate dates, the opening of the season being scheduled for May 30, when a series of minor races will be run off. On June 10 the season will be opened in earnest with a big regatta which will bring together a score or more of the fastest boats in the country, including not a few entries from Boston, New York and other places in addition to the cracks the Delaware can already boast of. All the large yacht clubs on the Delaware, above and below the city, will be represented, the largest number of entries coming from the Corinthian, Philadelphia, Bristol, Keystone, Beverly and Riverton Yacht clubs. On July 4 and August 5 similar contests will be run off, and on September 9 the season will close with a big carnival, at which will be decided, among other races, the championship of the Delaware, in which the rivalry promises to be intense. The Riverton course is claimed to be one of the finest in the country, being 10½ miles long, around two buoys, and with water usually as smooth as the proverbial mill-pond; besides the river is so wide all along the course as to allow plenty of "sea-room" for maneuvering.

climbing contest probably later during the season. The colors for the club have been adopted, gold and green.

Spread at Dayton—An elaborate dinner was given last week by C. B. Wolf, of the Dayton Automobile Club, of Dayton, O. The dining room of the club house was nicely decorated. There were fifteen guests.

Coast Club Committees—Committees on good roads, membership, runs and races and city speed regulations were appointed at a recent meeting of the Portland Automobile Club, held at the Commercial Club of Portland. A race meet will probably be held on Decoration day on the Irvington race track.

Head Cop on Hand—At a meeting of automobilists of Canton, Ill., a few days ago it was decided to organize a club. The chief of police was present and he took the opportunity to tell the motorists that they were continually breaking the speed regulations and that all offenders would in the future be arrested.

Club To Back Law—Law-abiding automobilists in and around Vineland, N. J., who recently formed the Automobile Club of South Jersey, held a meeting in the quarters of the Vineland Country Club last week and unanimously decided to live up to the letter and the spirit of the recently enacted state automobile law, and to assist the authorities in repressing violations thereof. The club will issue printed instructions setting forth and explaining every section of the law, and it is hoped that ere long the undoubted anti-

athy of the local officials and of the public in general may be overcome. In the present state of feeling in southern Jersey it is decidedly unsafe for an automobilist to be brought into court, for an adverse decision is almost a surety.

Club Run Each Week—At a recent meeting of the Automobile Club of Watertown, N. Y., it was decided to hold a club run every Friday, weather permitting. June 7 was selected as Orphans' day and all the members have agreed to be on hand with their cars.

An "Owl" Club—Twenty-eight new members have been admitted thus far this spring by the Bloomington Automobile Club, of Bloomington, Ill. A dinner will be given at the Hills house May 18 and will be followed by a moonlight run, weather permitting.

Looking for a Home—The New Jersey Automobile and Motor Club is contemplating moving into new quarters. An effort was made to arrange with the New Jersey Horse Association whereby the motorists might also occupy the latter's club house, but the project failed. The automobile club has nearly 500 members and yet it is claimed that it is difficult to raise the funds for a club house.

To Improve Streets—At a meeting of the Peoria Automobile Club, held in Peoria, Ill., a special committee was named which will report to the mayor and other authorities the condition of the streets and highways, and all cases of piles of garbage, stones or other matters being left in the street. The club also voted to spend \$150 towards the making of a sample of good roads by the National Good Roads Association. The club has sixty members.

Goddard Retires—A new president has been elected by the Worcester Automobile Club, of Worcester, Mass., because Asa Goddard, who has been president during the last 2 years, declined re-election. John P. Coghlin is the new leader; Daniel F. Gay is vice-president; Frederick E. Frost, secretary; W. N. Stark, treasurer. The board of governors consists of Asa Goddard, G. D. Webb, Alfred Thomas, A. H. Inman, J. G. Pranty, B. A. Coates and M. P. Whitall.

Jolting Grafting Chauffeurs—The Automobile Club of America calls the attention of its members to the fact that there is now on the statute books of New York state a law which will affect the demands of chauffeurs for commissions and bonuses from automobile dealers and garage keepers for the care or repair of their employers' cars. The measure was primarily framed in the interests of corporations, and amends the penal code by prohibiting the corrupt influencing of agents, employers or servants by allowing them commissions, bonuses or discounts of any kind.

Need 1,000 Cars—Last week the New York Motor Club experimented with the carrying of orphans with the children of the Hebrew Orphanage Asylum, this being preparatory to the Orphans' day outing scheduled to take place June 7. A Ford, a Pope-Toledo, a Knox and a White were used, and it was found that the majority of the cars could hold eight children with the driver. The little girls were first taken into the motor cars and then the boys. The tour around several blocks was enjoyed by the children. The rehearsal, as some of the club members called it, was said to have been entirely successful, and the officials say that at least 1,000 cars will be needed to carry all the orphans.

THE FEDERAL NO MORE

Ohio Parts Company Succeeded by the Garford Co., Which Purchases the Pope Interests

Cleveland, O., May 15—The Garford Co., is the title of a new company formed by A. L. Garford and others to take over a portion of the business of the Federal Mfg. Co. On May 1 Mr. Garford resigned the presidency of the Federal company, which he organized and of which he has been the chief executive officer since January, 1901. The Federal company, the controlling interest in which has been held by the Pope Mfg. Co., is to be dissolved. The new Garford company is entirely divorced from the Pope company, the Papes having no interest in it. The new company takes over the old Garford plant at Elyria and the automobile plant at Cleveland. It will engage almost exclusively in the production of automobile parts, and automobile chassis built to order. A great deal of attention will be paid to the development of the commercial vehicle. The plant and business of the Columbia Steel Works at Elyria has been taken over by a new company known as the Columbia Steel Co., and is controlled and will be operated under the direction of the Pope Mfg. Co. The plant will be devoted to the production of sheet steel. A close affiliation will continue to exist between the Columbia Steel Co. and the Garford Co.

The general offices of the new Garford Co. will probably remain at Elyria, but the sales department will be in the hands of Hayden Eames, with offices in the American Trust building, Cleveland. The company will have a preliminary capital stock of \$400,000 but this will probably be increased. The manufacture of parts will be carried on at Elyria, while the assembling and production of heavier work will be carried on at Cleveland.

The liquidation of the old Federal company has been gradual and has been on a most satisfactory basis to the Pope company. It began more than a year ago, when the Pope company took over the various saddle plants, operating them in connection with its bicycle department. Last fall the stampings plant at Milwaukee was disposed of to A. L. Smith and his associates, while the Chicago plant was sold to Harry Cassidy and associates. Sixty days ago the Indianapolis chain plant was sold to L. M. Wainwright and associates, while about a month ago the equipment of the Cleveland ball plant was sold to the Standard Roller Bearing Co. Now the automobile parts factories and the Columbia Steel plants have passed into other hands. The Westboro, Mass., plant has been used in the manufacture of golf balls but at present it is idle, and it will probably be disposed of.

The officers of the Garford Co. are as follows: President, Arthur L. Garford; vice-president, H. H. Johnson; secretary, George H. Kelley; treasurer, Fred N. Smith; general manager, Charles E. Hadley.

GLIDDEN TROPHY TOUR

New York, N. Y., May 16—The 1905 tour for the Glidden trophy, to be promoted by the touring committee of the American Automobile Association, will start from New York Tuesday, July 11, and continue for a fortnight. After carefully considering the matter and before turning it over to the A. A. A. touring

committee, the Glidden commission, at its recent meeting, decided that the affair should be a combination pleasure run and contest.

Therefore, the touring committee in its rules governing the run will outline a tour that will not be too trying on the participants and still will provide for a good test of the vehicles engaged in the 1,000-mile trip. Each day the participants will be required to start within specified hours and will be called upon to finish each night before a certain hour.

Since the route will be to the White mountains and return, it is possible that while in the mountainous country, some sort of a special hill-climb will be arranged. In this event, as in the tour itself, the question of speed will not count in favor of a car, since the test will be utilized simply for the purpose of exacting one of the conditions of ordinary touring.

The route as at present outlined calls for stops at Hartford, Boston and Portsmouth, with 4 days in the White mountains, during two of which the tourists will have an opportunity of attending the "Climb to the Clouds" up Mount Washington. The return will be by way of Nashua, Worcester, Lenox and Poughkeepsie.

Entry blanks and other information concerning the tour can be obtained from August Post, chairman of the A. A. A. touring committee, 31 West Forty-second street, New York.

MAY USE REGULAR FERRIES

San Francisco, Cal. May 12—The best bit of local automobile news of the present season is contained in the fact that the Automobile Club of California has obtained a concession from the Southern Pacific railway company allowing cars on all the boats of the broad-gauge ferry. The new regulation went into effect Thursday, in the nature of an experiment. The members of the board of governors of the Automobile Club of California state that it is of the utmost importance that automobile owners observe the regulations imposed by the railroad company, for a disposition to override the rules may result in the rescinding of the order, and perhaps in automobiles being excluded from the ferry boats altogether.

One of the greatest drawbacks of automobile driving in the vicinity of San Francisco has been the difficulty of getting to the country roads. On this side of the bay there is not a safe road out of the city, and up to the present time drivers who wished to use the good roads on the other side of the bay have been obliged to depend on the creek boats, which run on a 2-hour schedule and not later than 8 o'clock. With the free use of the ferry motorists can make long afternoon trips into the country.

QUARTER OF A MILLION

Cincinnati, O., May 15—The people of Cincinnati and vicinity have gone automobile crazy. Membership in the Automobile Club of Cincinnati has tripled, and it is considering the erection of a \$20,000 garage downtown. Dealers have sold this spring 145 machines, for \$256,625. The Hanauer Automobile Co. sold thirty-nine; Stanley Hooker, eight; the D. T. Williams Valve Co., six; the Standard Automobile Co., fourteen, but has not been able to get the machines; the George C. Miller Sons Carriage Co., eight; the Cincinnati Automobile Co., nineteen; the Special Motor Vehicle Co., fifteen, and the Oldsmobile Co., sold thirty-six.

LEGAL SENSE

THE TENNESSEE LAW

Tennessee's new automobile law went into effect April 27, but no attempt was made to enforce it until a few days ago. The act was passed March 27 and was to take effect 30 days after its passage.

Arrangements for the registration of the automobiles were not completed until last week, but now the clerks of all counties in the state which possess automobiles have been provided with copies of the new automobile law and blanks for the registration of the cars.

The act provides that before the owner of any "automobile, locomobile, motor cycle or any other vehicle of like character other than street railway cars" shall operate any automobile it shall be registered with the secretary of state. In applying for registration each owner shall state the motive power, make, his name and address and shall pay \$2. For this he will receive a numbered certificate of registration. This certificate he shall also register with the county court clerk and pay a fee of \$1. In case a car already registered is sold the certificate will be transferred upon the payment of a fee of \$1 to the secretary of state and of 50 cents to the county court clerk.

Each car must carry a number both in front and in back, and only one corresponding with the one given by the secretary of state, and each number shall be at least 3 inches high and 1½ inches wide and all must be on a plate 4 inches high and 7 inches long. No municipality will be allowed to require any automobile to carry any other than the state number.

No automobile shall be driven faster than 20 miles an hour and municipalities have the right to prescribe a lower maximum within the corporate limits. Automobile drivers must stop their cars in case horses are frightened and must allow drivers or riders sufficient time to alight and get control of their horses. In case of suits for damages for injuries caused by the running of automobiles there shall be a lien on the automobile for the satisfaction of such recovery as the court may award. A failure to comply with the provisions of the act shall be deemed a misdemeanor, punishable by a fine of not less than \$25 nor more than \$100.

DOUBLE TAX DUEL

The Automobile Club of Pittsburg has selected Dr. John A. Hawkins, one of its officers, to bear the brunt of the legal proceedings that have been started as the result of the attempt of Pittsburg politicians to try to make the automobile owners in the city pay a tax of \$6 a year on small automobiles and \$10 a year on those of more than one seat, with a 50 cent fee added for delinquency, this tax being in addition to the regular state tax of \$3 a year. Dr. Hawkins was arrested last week for non-payment of the fees. On the advice of the club's attorney, James Francis Burke, he offered the city treasurer \$3 in payment of his annual fee. This was refused and legal proceedings were started in a justice's court to force the payment of the larger fee. Attorney Burke took an appeal May 10 and it is likely the matter will go to the supreme court before it is settled, as both sides are in the fight to stay.



A FRENCH MOTOR CYCLE COP

Attorney Burke claims that under the Pennsylvania state law no city has a right to levy a tax of more than \$3 a year on automobilists, as this is the sum named in the statute. He says that the Pittsburg authorities in trying to enforce the payment of a larger amount are going beyond their authority, and that the ordinance is not legal in any way. The city authorities support their position by claiming that under their police powers, given to every large municipality, they have the right to levy and enforce the payment of taxes similar to this one.

AN OFFICIAL ABDUCTION

Several prominent automobilists of Syracuse, including John Wilkinson and C. A. Benjamin, of the H. H. Franklin Mfg. Co., and Carl Amos, of the Amos-Pierce Automobile Co., put up a job on a bunch of city officials last Friday. Mayor Alan C. Fobes announced that all the city officials and heads of departments were invited to join him in an automobile outing to South Bay. The outing, he said, would be a pleasant ride through a beautiful country and the speed would be slow enough to allow the participants to enjoy the scenery.

The campaign which the city officials have been conducting on automobilists recently has caused the latter a great deal of trouble. The mounted policemen have insisted on a snail's speed through the city and several automobilists have been arrested. When it was known that the mayor was to give an outing the "bunch" hugged itself with delight. Immediately the mayor was offered twelve automobiles with experienced drivers to make the trip.

"You fellows will have to go slow and observe the regulations," said the mayor.

"Certainly," said Benjamin, the leader. "Why you will think you are riding after a goat. Our machines can't go very fast anyway."

The word was to give the city officials the ride of their life and the drivers made good. South Bay is 15 miles from the city, but in 27 minutes the whole crowd was there. The party tore through the streets like mad, to the astonishment of the cops along the way. One of the latter started to protest, but seeing Mayor Fobes in the car subsided. The mayor and the other officials tried to get the drivers to slow down. "We must keep up with the leader," each driver would respond.

At South Bay a couple of hours was spent in bowling, boating and other pastimes and dinner was served. At 8 o'clock the start was made for home.

AND NONSENSE

DECLARE ROADS FOR HORSES

Pennsylvania automobilists are wondering as to just what effect last week's decision of Judge Wheaton, at Wilkesbarre, will have upon the operation of automobiles on toll roads throughout the state. It appears that the officials of the Laurel Run turnpike, a road running out of Wilkesbarre, forbade automobilists from operating their cars thereon, and Charles E. Beartels asked the court for a mandamus compelling the company to grant him the necessary permission. The following extracts from the opinion of the learned judge tell the rest of the story:

"The managers of highways owned by private corporations have an undoubted right, in the exercise of a sound discretion, to prevent such use of the highway as will make it dangerous to the general public. Unless forbidden by legislative enactment, as in the case of bicycles, they may exclude from its highway a carriage or vehicle the use of which is dangerous, where the safety of the general public demands such exclusion. The petitioner admits that automobiles, by reason of their size, great speed—rivaling the velocity of railroad trains—and alarming noise, are extremely dangerous to the traveling public, and their use on public highways is fraught with great danger to travelers who drive horses. The said turnpike was designed and constructed expressly for the convenience and pleasure of people in driving with horses over the same, and that safety to the general public peremptorily demands the exclusion of automobiles from the turnpike. There is no rate of toll for automobiles fixed by statute, nor does any appear to have been established by rule or regulation of the turnpike company. The demurrer is overruled, and prayer for peremptory writ is refused."

BUFFALO IN SCORCHING MOOD

Shotguns and motor cycles are the two instruments which have occurred to Superintendent Bull of the Buffalo police force as means of preventing automobile scorching on city streets. Scorching has become rather frequent of late and there have been a number of minor accidents besides the two fatal ones mentioned in MOTOR AGE last week.

"Shotguns or motor cycles seem to be needed to stop this business," said the superintendent to a MOTOR AGE man when he was asked what he intended to do about it.

"Shotguns to shoot the drivers?" he was asked.

"Well, perhaps that is a little strong, but I'll tell you this: If shotguns could be used safely in this city for puncturing automobile tires my men would be armed that way at once. But that would be too dangerous and the only other thing I can think of is to mount the bicycle cops on motor cycles. That plan has worked well in some other cities and I think it would go well here."

Mr. Bull was in doubt about being able to get the money for the motor cycles, but Commissioner Doherty asserted that it could be done by drawing on the incidental fund. He said he would make a motion at the meeting of the police commissioners this week that the motor cycles be bought and predicted that within a week the cops would be prepared to overhaul the speediest motorists in the bunch of scorchers.

Main street seems a favorite place for the violators of the speed laws. Many complaints have come in from the Parkside and Central Park districts, where the automobile drivers are particularly careless.

The Tonawanda police on Sunday afternoon began a crusade against scorching on the Delaware boulevard in that city. A little boy was killed on the street last Sunday and the police thereupon decided to break up the fast driving if they could.

A half mile was measured off and officers were stationed at each end. In an hour, the policemen declare, twenty-six automobiles covered that half mile at greater speed than the 8 miles an hour permitted by the local ordinance. The numbers of nineteen cars were taken and it is the intention to swear out warrants for the owners as soon as the names can be learned at the office of the secretary of state at Albany. It is believed by the police that the majority of the cars are owned in Buffalo. The times of the nineteen machines spotted varied from 1 minute to 2 minutes 5 seconds for the half mile.

LOCAL LAW RED TAPE

An amendment to the automobile law was recently enacted by the senate and house of representatives of Massachusetts, providing that no city or town automobile ordinances or regulations now in force will be valid after May 20, when the state law becomes operative. The authorities of cities and villages are allowed to make special regulations as to the speed of cars and motor cycles and may raise the speed limit, provided that such regulation has been published in one or more newspapers issued in the city or village, or in one or more county newspapers, and that within 15 days of the publication of such notice, not less than fifty residents of the state, of which ten must be tax-payers of the city or village, file a written request with the Massachusetts highway commission. If the regulation is approved by the commission it must be posted on sign boards placed conspicuously.

OFFICIALS GET TWO-THIRDS

Of the eight motorists who were captured without county licenses at Delmar track, St. Louis, May 7, one was fined \$100, because he had objected to being arrested, and the other seven \$12 each. The judge of the Clayton court admitted he got \$3 of each fine and the prosecuting attorney \$5, making it a profitable job for both. One motorist says that he was not 10 feet across the dead line that separates the city of St. Louis from St. Louis county when a ruffian-like deputy nabbed him and he was fined.

LICENSES IN MINNEAPOLIS

Minneapolis has been torn up during the past 2 weeks with the agitation for the licensing of drivers of automobiles. The result of the demand for a new city ordinance was the introduction in the city council last Friday night of an ordinance prepared by Alderman Westphal, with the aid and advice of A. Y. Merrill, attorney for the Minneapolis Automobile Club. The Westphal ordinance

provides for licensing, and embodies a number of regulations which are considered satisfactory to the automobilists. It does away with the 8-mile an hour restriction over the entire city and establishes a 20-mile radius, with the city hall as a center, within which the maximum speed is to be 8 miles, but outside of which a speed of 15 miles an hour may be maintained.

The ordinance requires a number on the back of the machine, and also upon a lamp, so that it can be seen at night. It has been referred to a committee, which will probably report it for passage next week.

FIGHT OVER OIL DRIPPING

Washington automobilists are up in arms against the activity on the part of the municipal authorities in arresting automobilists for dripping oil on the streets. Fifteen arrests were made in a single day and fines ranging from \$1 to \$5 were imposed. No warning was given that arrests would be made for dripping oil on the streets and the summary action of the police has caused no end of comment. Automobile dealers will take the initiative in testing the powers of the police in causing the arrest of automobilists and are now making up a purse to carry one of the cases to the district court of appeals. They contend that automobilists are being discriminated against in this matter, as the street car companies drip more oil in the course of a day than do the automobilists in a whole week. Moreover, the excrements from horses cause much discomfort to pedestrians, but nobody has yet heard of a horse owner being haled into court for allowing his horse to throw off foul matter on the streets.

COMMITTEEMEN CONVERTED

The committee on public health and safety, to whom was referred matters tending to speed regulation by automobiles by the Connecticut state legislature, and the committee of the Farmers' Alliance of Connecticut, to consider the same question, were given a "show me" ride last week, which will no doubt aid greatly in increasing the limit of speed to be allowed in the state, while sentiment against any limitations has been planted. The demonstration was arranged by M. Toscan Bennett, attorney for the National Association of Automobile Manufacturers, and E. C. Bald had charge of the details.

The selectmen of the town of West Hartford allowed any speed to be legally engaged in upon Wednesday last by Bald and four other drivers of the Electric Vehicle Co.'s staff. The legislators' and farmers' committees embarked at the state capitol and were driven first through Hartford streets. It was shown to them that at times the limit of 12 miles in city streets was positively dangerous to other interests and it was also shown that spurts of 40 miles an hour speed were sometimes to be attempted with safety.

"We only wish that all the legislators might be present at this trial," said a committeeman from New Canaan. "It has been a revelation to us. Personally I feel that the speed limit can be safely abolished, but I think good strong rules of the road ought to be determined upon for the government of automobilists and horse drivers alike. I never realized that there was so much reckless driving of teams before. I have seen horsemen allow automobiles to pass them with the

reins hanging limp and the horse free to go as he would. Of course, the people would not stand for an abolition of speed regulation at this time. It is too early in the game. The question will right itself, however. We shall probably be unanimous for 20 miles. I would like to see it higher if we cannot abolish it altogether.

"What our committee ought to recommend and what the legislators ought to make law is to have the responsibility of road use fixed upon all users. The damage ought to be charged absolutely to whoever occasions it and every vehicle really ought to be required to use lamps when running at night. Burdening automobiles with limitations and allowing a wide range of latitude to trolley cars and teams savors strongly of class legislation to me."

SQUABBLE IN MARYLAND

A score or more of automobile drivers attending the horse show at Chevy Chase, Md., were placed under arrest last Saturday by Deputy Sheriff Bradley, of Montgomery county, Maryland, charged with operating automobiles in Maryland without a state license. The wholesale arrests caused much excitement and may lead to serious results. The arrests might never have been made had the deputy sheriff been allowed to witness the horse show. Appearing at the gate without uniform or any badge of authority he was denied admission and caused so much trouble that he was ejected. It was claimed that he threatened vengeance and later it was found that he had succeeded in getting even. At the club house he found a number of cars owned by prominent Washingtonians, who are members of the club, and as they had no Maryland license he immediately placed all the drivers under arrest and was getting ready to take the whole bunch to Rockville, the county seat, when the owners appeared on the scene and demanded an explanation. It was forthcoming, but was evidently not satisfactory to the motorists, for they made ready to return to Washington. The deputy sheriff then wilted and released all the drivers, stating, however, that he would take steps to see that the Maryland automobile law was strictly enforced in the future.

Chevy Chase is just a quarter of a mile over the District of Columbia line, and motorists who belong to the Chevy Chase Club think they should not be compelled to take out a Maryland license in order to travel this short distance in the state.

FEDERAL COURT BASHFUL

Judge C. C. Kohlsaat decided last week that the federal court has no jurisdiction in the case of John Farson and other Chicago automobilists who had presented a bill for injunction against the city of Chicago to restrain it from enforcing the automobile license ordinance. The judge, in dismissing the bill, said that the case is to be taken up in the state courts. Attorney Charles F. Davies, for John Farson and the other motorists, said that the fight would be continued until won.





INTERNATIONAL MARKET

The fact that American automobiles will be directly affected by the new German tariff law and reciprocity treaty should cause some concern among American automobile manufacturers interested in foreign trade.

Last year \$97,303 worth of automobiles were exported from this country to Germany. Automobiles are among the sixteen articles of American export to Germany which are directly affected by the new German tariff law and treaties. On these articles when imported into Germany from the United States much higher duties will be charged than on the same articles when imported from any one of the seven competitor nations which have recently established reciprocal trade relations with the German empire. The following shows the autonomous duties on motor cars and motor cycles to go into effect in 1906, with reductions granted to certain European countries:

One hundred and ten pounds or less, \$37.50 for each hundred pounds; 110 to 220 pounds, \$28.56; 220 to 550 pounds, \$21.42; 550 to 1,100 and over, \$4.76, reduced by treaty to \$3.57, or a difference of \$4.76 against American cars; 1,100 to 2,220 pounds, \$9.52, reduced by treaty to \$5.95, or a difference of \$3.57; 2,200 pounds and over, \$4.76, reduced by treaty to \$3.57, or a difference of \$1.19 against American cars.

It needs but a glance at the above list to show how important will be the concessions granted to the seven treaty nations, and how formidable will be their competition in the German market against cars coming from the United States, which, for want of a reciprocal treaty or other convention, will be subject to the autonomous or unmodified tariff in exporting cars to Germany.

MOUNTAIN CLIMBERS' SHOW

The first exclusive automobile and accessory show ever held in Switzerland was opened a few days ago with the presence of some of the highest government officials of the little republic. It was quite a social occasion. While the exposition is a small one it nevertheless is interesting and international, there being French and German motor cars, motor cycles and accessories on display as well as Swiss goods. It is, however, as a national exhibition that this first Swiss show is chiefly interesting, for every member of the automobile manufacturing trade of Switzerland is represented. In proportion to the number of

car manufacturers in the little country, it is astonishing that one-third either built commercial cars exclusively or in connection with touring cars. The motor cycle builders of Switzerland are also largely represented, and, all told, the show is a revelation of the importance the automobile industry has attained in Switzerland within the last 2 years.

MORE CARS, BUT CHEAPER

During January and February of this year eighty-nine automobiles were imported into Italy, their value being \$164,200, or an average of \$1,845 per car; in 1904 during the first 2 months of the year the imported cars numbered only forty-five, their value being \$106,200, or an average of \$2,360 each. The exports during the corresponding period have increased from three in 1904 to twenty-one this year. The value of the latter is \$39,850 or \$1,897 each, while the former exportation was valued at \$3,600, or \$1,200 per car.

CONSERVATIVE MARKET

The annual report for 1904 of the American consul at Amsterdam, Netherlands, contains the assertion that the sale of motor cars there did not increase in 1904 as was expected, principally because of the losses incurred by the public in speculating in American stocks. The report then goes on to describe the automobile outlook in that country. The use of the customary open cars is not practicable in the Netherlands on account of the dust in summer and strong winds the greater part of the year. Cars must be either closed or provided with practical tops which can be closed on either side. They must be fitted with as many seats as possible, furnish sufficient room for storing spare tires and machine parts and the necessary luggage of passengers. It is a mistake to ship light cars to that country. A Netherlander, when buying a car, rather prefers to pay a higher price than to have to continually repair a car not heavy enough for the service. The agent or representative should own a repair shop and keep constantly on hand a stock of parts. The interchangeableness of the parts in the mechanism is absolutely required in a country where the cars are not manufactured.

The Netherlands government issues permits for using the roads for motor cars, and the cars are numbered consecutively. Up to the end of September, 1905, 1,450 numbers had been given out. However, many foreigners have a Netherlands permit, so that not more than 700 Hollanders may be considered as owners of cars. The second chamber of par-

liament has under consideration a new law regulating the traffic, its main feature being to regulate definitely the traffic on all Dutch roads, and 40 kilometers—24.8 miles—per hour has been proposed as the maximum speed.

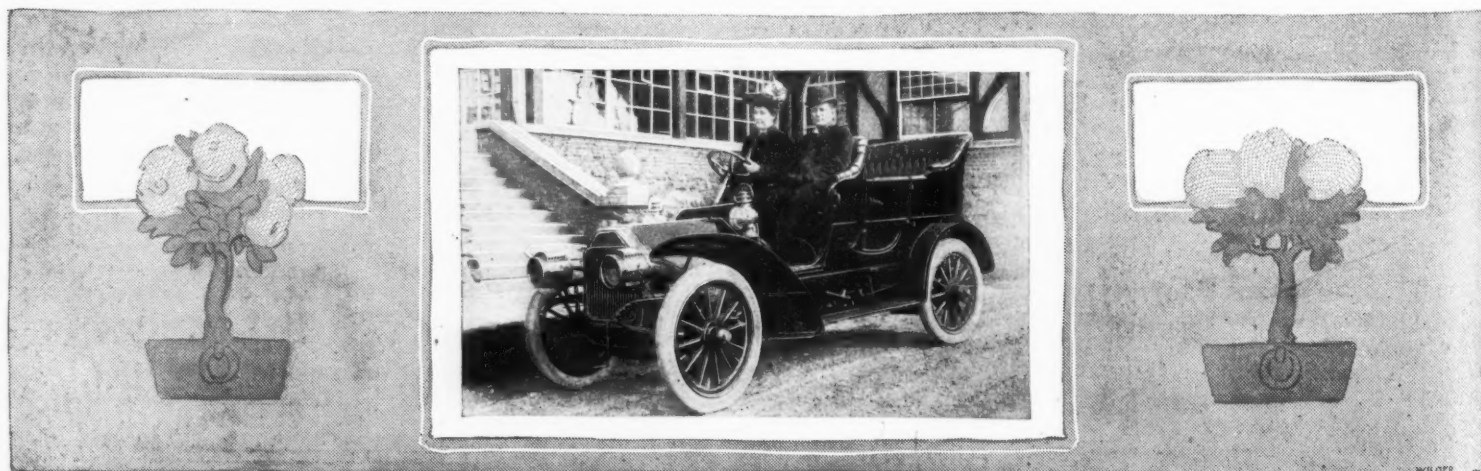
European automobile manufacturers having agencies in the Netherlands are: French, eleven; German, three; Belgian, one. American cars are not much in evidence, and with one exception there are no American agencies in the Netherlands. The Dutch law does not permit boilers, so there is no market for steam cars. Of the electrical machines, nothing is seen in Amsterdam. Nobody seems to push their sale, although electricians might have a good sale.

BUYS MORE THAN SELLS

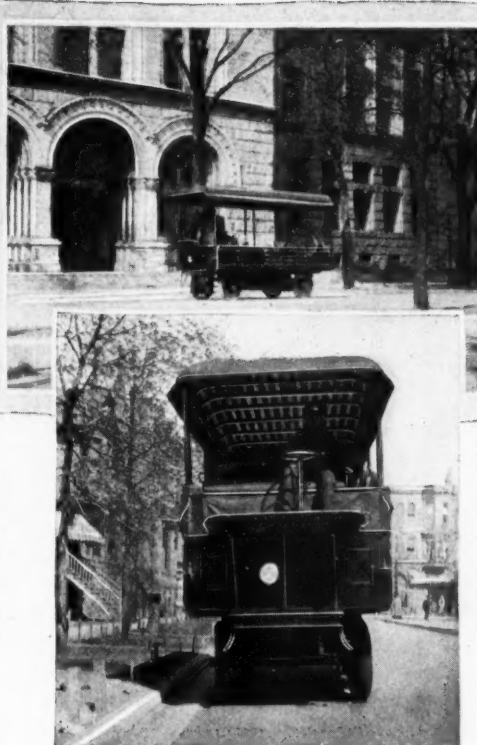
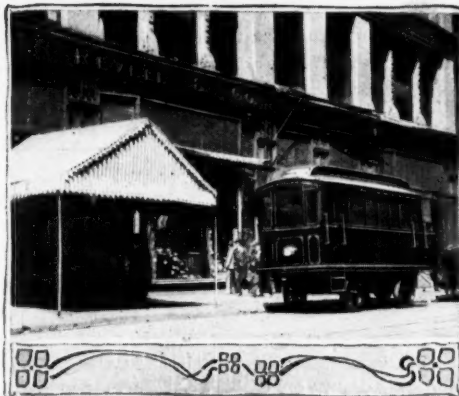
The value of the automobiles imported into Switzerland in 1904 was \$436,100, of which amount \$324,280 is credited to France; \$76,340 to Germany, and \$24,640 to the United States. The exportation of Swiss cars in 1904 was \$277,920, of which amount \$137,740 was received from English importers. France was the second best purchaser and Germany the third. The value of the imported motor cycles was \$35,000 while the value of the exported motor cycles was \$57,740, France buying \$50,400 worth of Swiss machines. A French trade paper, commenting upon the Swiss trade, says that if the French manufacturers would establish agencies in the principal cities instead of only having one each, generally in Geneva, to take care of the entire country, the French trade would soon be double what it is now. There is an increasing demand for medium size touring cars which can be purchased for less than \$2,000.

HOLIDAY FOR DUTY

Word has been received officially that in response to a petition the legislature of Uruguay has decided to allow the admission into that country of 100 automobiles free of import duty. Automobiles are practically unknown in Montevideo, the capital, only four or five being in use there. It may be that this is due to the lack of good roads, but the report says this can hardly be the reason, for Buenos Ayres, where good roads are equally rare, hundreds of automobiles are to be seen. The real reason for their rarity in Montevideo is, it is stated, the high duty, which adds 50 per cent to their cost. It is hoped that the temporary remission of duty, which is strongly supported by several deputies, will give rise to a strong demand for motor cars in Uruguay. Roads in the country are fairly good, and abound in interesting scenery.



MISS EMMA EAMES IN THE PEERLESS SHE WILL TAKE TO HER HOME IN ITALY



REVELL MOTOR VANS IN SERVICE

The Realm of the Commercial Car



IF THE commercial automobile continues increasing in size for the next few years as it has during the past two we will have to widen our city streets and trim the low branches off the trees along many of the residence streets and avenues in order that these new giants of the commercial realm may have room to go about peacefully on their daily missions.

Passenger buses capable of carrying forty-five passengers are becoming common sights in parks and on pleasure drives in the summer time. They offer unsurpassed facilities for sight-seeing, being able to go where street cars are forbidden and offering superior observation. But the business car is even exceeding in avoirdupois and carrying capacity the pleasure car. Alexander H. Revell & Co., of Chicago, have recently added a huge electric truck of the side stake canopy top style for the distribution of furniture to all parts of the city. The truck is one of those monsters, so big that when in the seat beside the driver you can see over the tops of the cable cars and gain a general survey of the street before and behind over the tops of the other wagons. When entering it you climb from one hand hold to another much as you would when scaling a wall, and when on the seat you brace your feet firmly against the footboard and take hold of the railing at your side.

The carrying space behind the driver's seat is like a small room, being 16 feet 6 inches long, 7 feet wide and over 8 feet high. When the tail board is lowered the carrying length is increased 3 feet. Into this 1,120 cubic feet of carrying space it is possible to place all the furniture needed for a six or seven-room flat, and with it make a 10-mile-an-hour trip.

The truck is propelled by two Westinghouse electric motors rated at 1.85 horsepower each and carried on the rear axles and the current is furnished from forty-five cells of storage battery carried beneath the truck platform and between the front and rear wheels.

Last week MOTOR AGE had the opportunity of seeing this delivery leviathan loaded up, make a delivery and return to the store. The writer found it shortly after noon in a narrow dark alley in rear of the big furniture house. It was lined up with about a dozen horse wagons, all packed as closely together as fish in a box and being loaded for the afternoon trip.

"Teddy," the shipping clerk, was busy seeing that "the truck," as the big electric is called, was being loaded with its usual quota of tables, chairs, rugs, beds, etc. But a light load was in store for it, four different deliveries comprising the trip. The first included a bed spring, a mattress and a package; in the second was one package; the third was a

library table and rocker, and the fourth, a more pretentious one, comprised three beds, three bed springs, two mattresses, two dressers, one chiffonier and twelve packages ranging in size from a bed bolster to a wash basket of kitchen utensils, which when on the driver was half ashamed to start off with. The truck floor was scarcely covered and not even behind the seat did the load reach half of the height of the stakes. It could have stored away four times as much and then had room to spare, but not being able to make customers buy for this especial delivery it was forced to start off with the bottom at least strewn with a few pieces and packages.

To get out was the first trouble. The trouble, however, was all imagination. At the right a colored driver had swung his gray nag in front of the car and he required more time and created more disturbance in pulling it around than was made the entire afternoon with the truck. The current was turned on and scarcely perceptibly the truck left its moorings for the narrow space down the alley. The space was not 1 foot wider than the truck platform, but without trouble it moved along and entered the street.

The start was made at 1:54 in the afternoon. Adams street was filled with teams, but the ring of the bell was sufficient warning, the driver being able to take as narrow openings as did the horse vehicles. Once Michigan avenue was reached the open space increased and the truck commenced its procession of passing other vehicles that did not end until the barns were reached after the trip. Up Michigan avenue the trip was not much faster for a while than a horse walk, as automobiles were skimming around on the street beneath, a horse wagon ahead would almost stop and street cars interfered. In spite of this in six short blocks seven wagons were overtaken, but not a single horse vehicle passed. Six wagons may not appear much in as many blocks, but for a 4-ton truck it was creditable; so much so that by the time Rush street bridge was reached the jam was left behind and an open street was ahead.

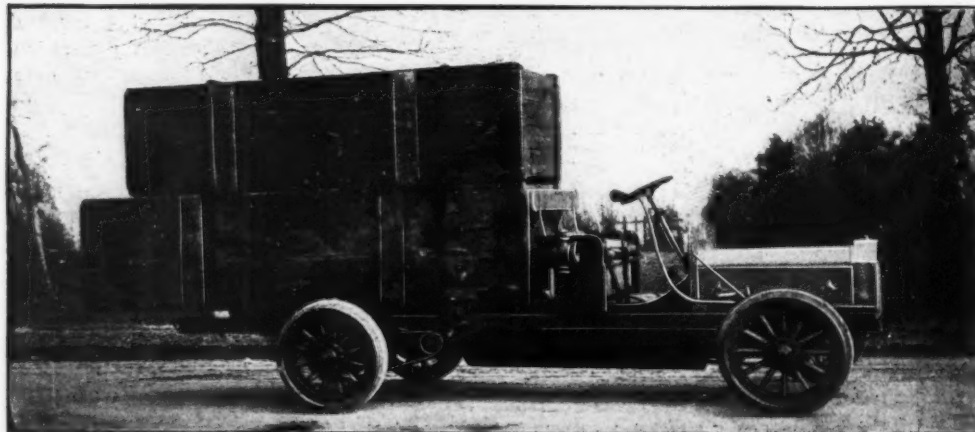
The bridge quivered but the truck moved

along practically noiseless except for the pinions on the drive wheels. Once the river was crossed the driver whisked on a little more current, as the truck, as if ready for the fray responded with alacrity. Ohio street, four blocks farther on, was reached, and without warning the first right angle turn was made. The speed was slightly over 10 miles an hour and the sensation of sitting on the top corner of a house and being swung one-quarter way round at that speed is not soon to be forgotten. But the effect is felt most by the passengers as the truck never shook in spite of the car track crossed nor was the furniture jarred. There was soon another treatment to a similar swing onto North State street when a trolley car and a long line of coal wagons were passed, the truck taking the left side of the street in doing the trick. Farther on three light deliveries were given the same treatment. One of them did not like its medicine. The driver whipped his horse, gave the truck a scornful look and looped to leave it. But the battery was equal to the occasion and a further notch of the handle and the haughty driver was overhauled. The pace was too hot for him and the big truck was winner.

The car tracks are too narrow for a wagon of this size. One wheel followed the track, but the other was some inches outside of the other rail. Of course a 4½-inch Firestone tire is not the best one for following a narrow track groove, but when on the tracks the running is smoother and current is not eaten up so fast. It takes some time when sitting on the driver's seat to know just where the wheels do run. On a pleasure car you can see the wheels, but on this truck they are hidden away beneath and a glimpse back at the tracks in the dust is the only way left to locate them.

The first stop was made on Chestnut street near Dearborn avenue at 6 minutes after 2 and exactly 12 minutes after it had left the alley. The distance covered was 1½ miles, half of which was through the business section.

Thanks to the landlord being absent and the janitor not on hand, there was a 20-minute wait before the goods were delivered and a start made. Half a block on a 5-minute stop was made and then a 1½-mile run was made up to Lincoln park. On pavement the pace was 10 miles an hour, but on a block and a half of block pavement speed was reduced to



AN ENGLISH 2-TON TRUCK, THE IDEN

a 3-mile-an-hour crawl. It is such streets that hamper the workings of big commercial cars. So rough was the block pavement that it was necessary to hold on by the side rails.

After a 3½-minute stop the start was made on the long part of the trip, being to Ravenswood at the corner of Wilson and Magnolia avenues, a distance of 9 miles from the starting point, by the route taken by the truck. On Lincoln avenue the truck found itself in the midst of a medley of sand wagons, light deliveries and road cars, but it took a B line up the center, meeting vehicles on the left and passing others on the right. So close was it at times to those being passed that you could have jumped down on to the backs of the horses or on the tops of the wagons. In two blocks five wagons were passed. They were not heavily loaded wagons but single horse deliveries with the horses going at a good trot all of the time. On Sedgwick street a cab was passed and on Clark street occurred one of the most exciting races of the trip. A driver for the South Chicago Express Co. was taking the car tracks. After catching him the truck was swung out of the car tracks to the right so as to pass the expressman. But the driver was game and so were the horses for a time, but even if the spirit was willing the flesh was hopelessly weak. The driver jerked out his whip, lashed on his team, which broke into a gallop and pulled half a length ahead of it. A hole or two in the pavement lost the truck another half length and the driver turned around with a contemptuous look. But he who laughs last laughs best. The brick pavement ahead was clear of ruts for a block. The driver realizing that it was time to show his trump card turned on the full current and soon the gain of the expressman was gone. Once more the whip was used, but his game was lost, the truck made the car track ahead and had soon increased its lead to a couple of blocks, while the driver turned into a water trough to refresh his winded team.

The rest of the outward trip was a continuation of passing one wagon after another. In one place three coal wagons were passed and it was amazing to see how slowly they traveled compared with the truck. Their speed was not 2 miles an hour. Not a horse-drawn vehicle passed and only one electric car got ahead.

At 3:20 the destination was reached, 56 minutes' actual running time being required to make the 9 miles, or a speed of over 9½ miles an hour was maintained throughout.

In returning to the barns 42 minutes were required. In all fifteen vehicles were passed.

This number includes only vehicles moving in the same direction and not making stops, all others not being counted. It took one of the big Evanston electric cars a block and a half to pass, a cable car required five blocks to do the trick and a Cadillac runabout was a side-by-side companion for three blocks on Dearborn avenue. In this speed the truck creates its economy.

During the afternoon the truck caused one runaway, the third since it has been in commission, and was treated to numerous cake walks by other horses. The runaway was more amusing than serious. A painter's wagon was standing at the curb while the men were removing some ladders from a house a few feet from the sidewalk. The painter as well as the horse saw the truck approach. The owner looked more interested in the truck than in his horse until the latter was making down the street, when he apparently thought the driver should stop and catch his horse instead of him giving chase. He thanked him for the compliment to the truck's speed but continued on his course. The horse was captured a few doors farther down. While horses never notice the pleasure car they are often terrified by the truck. Its mammoth size is too much for many of them, who perhaps in their horselike fancy imagine a street car has forsaken the tracks and is aiming direct for them.

But the street performance of such a truck is not the only interesting part. It has a money making history worthy of note. This truck has been in service since the first of March, 1905, and in repairs since then has cost \$2.50 for a pinion for the motor shaft. Revell & Co. have had another electric wagon which they call "the car" in commission since October, 1903, and more can be learned from its performance. For the first 16 months in operation the repair and replacement bill amounted to \$52.25. Current expenses vary each month. One month the bill for recharging was \$19.36 and another it was \$27.16. For April this year the current cost was \$18.50. This car has run steadily for 16 months. One new set of positive plates have been placed in the battery at a cost of \$160 and two new tires at \$80 each have been added.



The total expenses of operating the car for the 16 months are as follows:

Current	\$450.00
Small repairs.....	52.25
Tires	160.00
Plates	160.00
Total	\$822.25

These trucks do the work of two teams and a team means three horses, each horse working every other day throughout the week. The two teams mean then six horses. Keep, including shoeing, costs \$20 per month for each horse, or a monthly bill of \$120 for the two wagons. For 16 months this would have amounted to \$1,920, or exactly \$1,097.75 more than needed for the electric truck. These are actual figures taken from the books of Revell & Co. and as such are trustworthy information as to the relative cost of commercial wagons.

Readers may wonder that if the performance of such a vehicle results in such a great saving why do not Revell & Co. sell all of their horses and horse wagons and install electric trucks? The answer is brief. The best business men are slow in adopting changes. They experiment and before taking any so radical steps as such would be want to know every in and out in the new invention to be introduced. You cannot test a commercial wagon in a week, a month or a year. It takes years to make a thorough test. The length of battery life has to be computed, not by salesmen's calculations, but by daily usage and repair bills. The endurance of rubber tires must be made and thousands of miles of travel over rough and smooth streets is the only way such can be done. Then the life of a motor has to be discovered as has a dozen other things. In 16 months Revell & Co. have had sufficient experience and done sufficient experimenting to warrant putting on the big truck herewith illustrated and the probabilities are that within the next 16 months several additions will be made.

Revell & Co. recognize that they are dealing with an electric mechanism and not with horse flesh. They exhibited this knowledge at the start by not placing the wagons in the hands of an instantaneously graduated driver from the teamsters' ranks. One man can turn on the current, apply the brakes and navigate the streets even if he is a teamster, but it takes a man with much more intelligence to operate a truck. He must know every part of the battery and motor, so that if a cell runs dry and power fails he knows what is wrong and effects a repair before other parts are damaged. The driver must be a perfect thermometer of the truck.

BRITISH GASOLINE TRUCK

The Iden, a new 2-ton gasoline truck manufactured by the Iden Motor Co., of Coventry, England, follows very closely the lines of gasoline cars in every part of its construction. It is in fact a large, strong chassis with a vertical 4-cylinder water cooled motor in front beneath a bonnet, clutch, sliding gear transmission and differential counter shaft and double final chain drive to the rear wheels. The channel steel frame has four heavy channel pieces running parallel from the front to the rear. The outer two have 5 by 2-inch channels 3-16-inch thickness and the two inner ones which carry the motor and gear case have 1½ by 1¼-inch channels of the same thickness as the outer ones. The frame projects one-third of its length behind the rear axle, making it im-

perative that practically all of the load be carried upon this axle.

Semi-elliptic springs are used in front and rear, the rear ones being outside of the frame and connected at their back ends by a cross spring.

The motor is rated at 25-horsepower at 1,000 revolutions per minute and has cooling, igniting and lubricating arrangements of touring car design. The clutch is a metal-to-metal kind which runs in oil pumped into it at one side and being forced out at the opposite side. By this copious use of oil any amount of slipping can be done when starting without danger from heating or injury of the parts. The short shaft connecting the clutch and gear case has double universal joints. Within the gear case are extra heavy gear with wide faces. Direct drive is used on the high speed with the counter shaft idle. The forward speeds are 6, 11 and 15 miles per hour and the reverse is 6. The differential counter shaft is six inches behind the gear case, there being sufficient room between them for a band brake on the drive shaft. The chains to the road wheel sprockets are very heavy and the radius rods for adjustment are so made that when the car is loaded they are horizontal so that with every jolt and jar they vibrate above and beneath the horizontal. In this position the jar on the chains is not so great as when the rods work at considerable angle.

Three brakes are used, one already referred to, and two others on the rear hubs. Steering is through a worm and segment gear from an inclined column with steering wheel. The steering column has the usual throttle and spark levers, in the foot board are two pedals and at the driver's right one speed change lever and one for the emergency brakes.

The body has not any box attached, only planks lying on the top of the frame. This permits of boxes or other loads with larger bases than the platform of the truck being successfully carried.

SERVICEABLE BUSES

A line of small motor buses is being built by a British company, the Maudslay Motor Co., of Coventry, which are suitable for family use such as picnics or other outings and can also be used as public buses in places with light traffic. To increase their reliability twin solid tires are used on the rear wheels and single solid ones on the front wheels.

The side pieces of the frame are square section metal tubes filled with ash and the machinery is carried on a sub frame. Semi-elliptic springs with abnormal depth are used, the aim being to increase the riding qualities by this construction.

Power is generated by a 2-cylinder vertical motor mounted in front of the dash and rated at 14-horsepower. The valves in the heads of the cylinders are opened and closed by walking beam action, the beam being driven from a cam shaft within the crank case.

Power transmission to the chain sprockets on the hubs of the rear wheels includes a friction clutch, sliding gear transmission, differential counter shaft and double drive chains. The rear hub brakes are of the locomotive type, having two opposing shoes forced against a metal hub by lever movement. As a safety when stopping on hills there are two sprags normally supported with their points but a few inches from the ground and so retained that pressure on a button at the seat drops them. The steering and operating mechanisms are of regular touring car design and arrangement.

MILESTONES ON THE BUSINESS HIGHWAY



Express Route in Saginaw—The Motor Express Co. was recently incorporated for \$10,000, to operate an automobile delivery service in Saginaw, Mich.

Buys French Buses—The Motor Car Emporium, Ltd., of London, recently ordered 110 motor buses from the de Dion-Bouton Co., of Paris. Each vehicle will have seating capacity for thirty-four persons and will cost about \$4,500.

Will Exceed Speed Limits—The automobile police patrol which has been ordered for use at Syracuse will arrive so as to be put in service about June 1. The machine is being built by the Electric Vehicle Co., of Hartford, Conn. It is to cost \$3,500 and will have a maximum speed of 35 miles an hour.

An Icy Success—Harry Burt, of Youngstown, O., an ice cream dealer, who recently ordered a delivery car from the Mahoning Motor Car Co., is reported to be well satisfied with the vehicle. It takes the place of two horses and two wagons, does the work much quicker, does more work and gives much less trouble than horses. The customers of Burt also approve of his motor wagon ice cream delivery, as they get the goods earlier, and may get goods twice a day if desired.

Argentina Up-to-Date—The German Transatlantic Electric Co., of Buenos Ayres, Argentina, one of the strongest companies of its kind in the world, controlling the electric lighting and the street railways of the Argentine capital and its suburbs, has decided to utilize its great plant in an endeavor to supplant with electric vehicles the 3,000 cabs of Buenos Ayres. Mauro Herlitzka, the manager, states that the company intends ordering 100 electric cabs by way of experiment, and he is thoroughly convinced that the demand will be such as to warrant a considerable increase at an as to soon warrant a considerable increase. The vehicles will be mainly of light landaulet pattern, as best fitted to the climate and in order not to depart too far from the style of light victoria that has proved successful in the present cab service. Manager Herlitzka was shown a catalogue of an American company that makes landaulets; these, he remarked, were too heavy and evidently intended for the cold winters of the north. The style of vehicle he prefers is of a similar pattern,

but cut lower on the sides, with lighter top, and generally lighter construction. At present his preference seems to be for French coach work and German electrical machinery.

In the Trolley's Realm—There is talk of organizing a company to operate an automobile passenger and merchandise service in Traverse City, Mich., and nearby villages.

For Soap Delivery—The Larkin Soap Co., of Buffalo, one of the largest manufacturing concerns in that city, has added a Packard commercial truck to its equipment. The Larkin company heretofore has used electric trucks for much of its heavy delivery work.

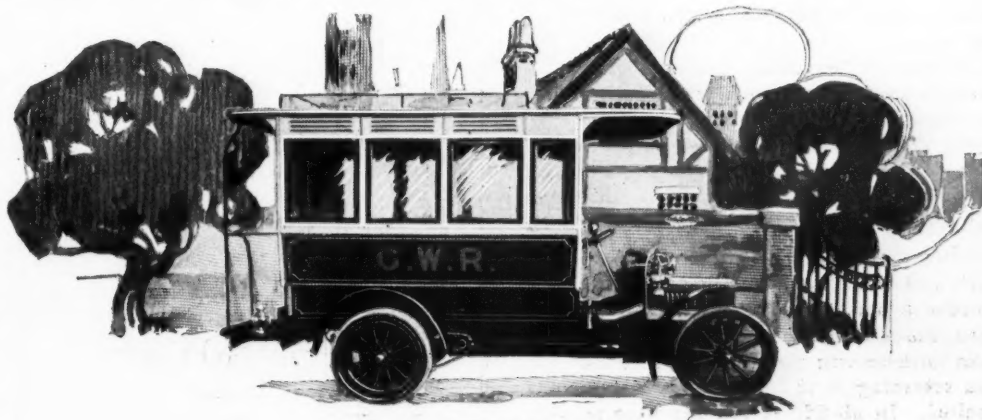
Blaze Was for Gold Mine Route—Two engineers are surveying the roads from Las Vegas to Beatty and the Bullfrog and Goldfield district roads, in the Nevada gold mine belt, for Senator William A. Clark, who intends to organize an automobile transportation company to operate in that region.

Farmers Like Bus Line—A ten-passenger car will probably be put into operation shortly to convey persons and luggage from Chelsea to Tecumseh, Mich. It is said that farmers along the route are pleased with the project, as the service will enable them to go to other villages quickly and at little expense.

Heavy Freight Service—An extensive hauling service will be started in July by the California Auto Dispatch Co., of Los Angeles, Cal. It is expected that eight trucks of 5 tons capacity each will be used to start with, and this number increased in proportion to the increase in business. The company was incorporated with a capital stock of \$200,000.

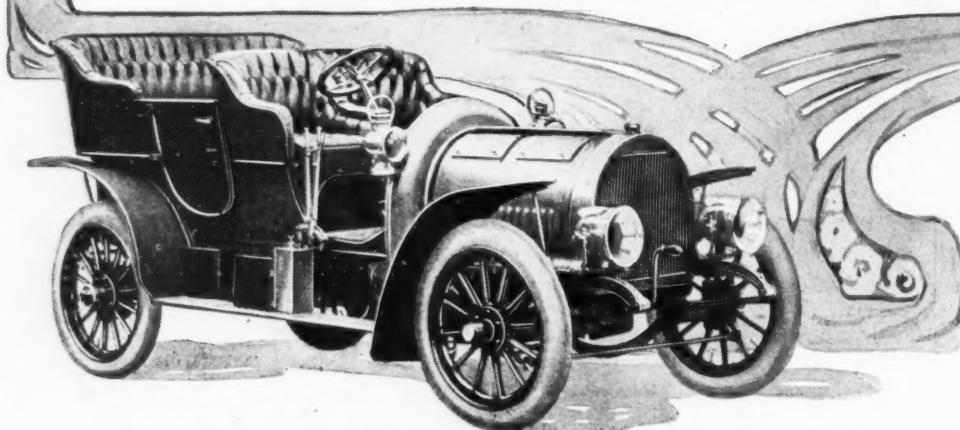
Five-Cent Fare—Three motor buses seating sixteen passengers each were put into operation last week by the Parsons Auto Transit Co., of Parsons, Kan. At present the cars will be for city service only, covering various routes for which a fare of 5 cents will be charged. The vehicles are also to be used for sight-seeing purposes after 7:30 in the evening.

Rapid Passenger Service—An automobile bus service for passengers, merchandise and mail has been started between the towns of Tolz and Lenggries, in Germany. Four big vehicles are used, two being used for passengers exclusively and having seating room for twenty-one persons each, while two are used for carrying mail and merchandise. The passenger cars cover the route of about 11 miles in 45 minutes, while the two other vehicles require 1½ hours, on account of the numerous stops made at small villages where mail is to be delivered and collected. Each vehicle cost \$4,375.



THE MAUDSLAY LIGHT OMNIBUS

AUTOMOBILE DEVELOPMENT



THE ROYAL TOURIST

THE ROYAL TOURIST

Royal Tourist model F, the 1905 product of the Royal Motor Car Co., Cleveland, in general construction, follows standard lines for 4-cylinder cars, but has several points in detail that are unique. The pressed steel frame of channel section has the side members narrowed alongside of the motor and they taper at the front and rear where they are reinforced, acting as spring hangers. Only three cross pieces are used, two forward ones, one in front of the motor and the other in rear of the transmission for supporting these parts and the clutch through a sub frame, and another near the rear. On all of these are drawn gusset plates which are riveted to the side channels.

The front semi-elliptic springs are swung beneath the side pieces of the frame, being bolted to the spring hangers at the front end and shackled at the rear end. The rear springs, of the same type, are 6 inches longer than the front ones, being 48 inches long and are shackled at both ends and rest on a seating pivoted on the housing of the axle. They are swung outside of the frame side pieces and the rear shackles are carried on a cross rod passing through both spring hangers and held in place by nuts and cotter pins.

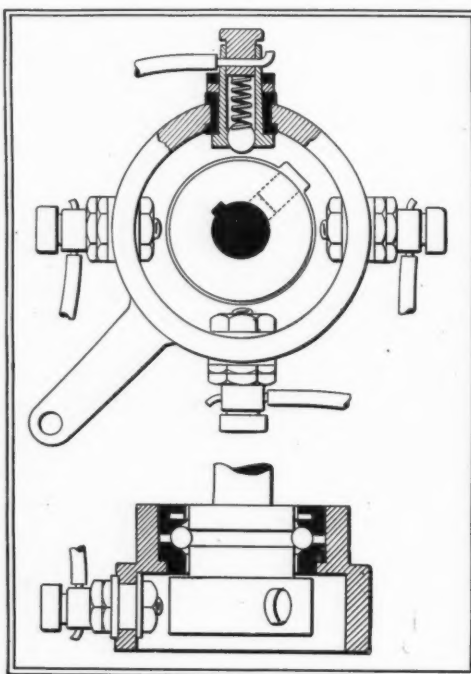
The front axle is dropped for engine clearance and the rear one carries a bevel differential in the center and bevel gear for propeller shaft drive. Roller bearings are used in both axles, except in the rear where large ball end thrust bearings are made use of. In the rear axle all car weight is carried by the axle casing, the squared drive shafts connecting the differential bevels with the road wheels can be removed by taking off the hub caps and drawing them out. Being only called upon in a driving capacity and free from all car weight the working of this axle is considerably improved and the wear on it lessened. The artillery wood wheels are regularly fitted with 34 by 4½-inch clincher tires.

The vertical motor, located in front beneath a bonnet, has the cylinders cast in pairs with cylinders, water jackets, cylinder heads and valve ports cast integral. The valves are on opposite sides, the inlets being in ports on the right and the exhaust in ports on the left. The pairs of cylinders are bolted by six bolts to the upper parts of the crank case which is in turn carried on the two longitudinal pieces of the sub frame by four integral arms which are bolted to the frame pieces. The bottom half of the crank case is carried by bolts to the top

part and may be removed without dismounting any other part of the motor. Between the pairs of cylinders is a transverse bridge for retaining oil beneath all cylinders and in the base of each half are large inspection plates, easily removable and in each a drain cock for removing oil. The fibre gears driving the two cam shafts are at the front end and not enclosed but being of wide face are comparatively noiseless.

The crank shaft and both cam shafts are contained in the crank case. The first is a drop steel forging with throws placed in pairs at 180 degrees. It revolves on two end bearings and a long center one between the pairs of cylinders. All bearings are bronze bushings, but those on the piston end of the I beam section connecting rods are hardened steel. The pistons have straight sides, flat tops and four rings near the top with lap joints and oil grooves for distributing the lubricant.

The interchangeable valves are seated in casing in the bottom of their respective ports and are actuated through vertical plunger rods operated by cams on the half time shafts. Both of these shafts are interchangeable as are all other parts in connection with the valves. Each valve may be removed by unscrewing a cap in the top of the port directly above it.



THE LEAVITT IGNITION TIMER

The usual sleeves and guides are used with the plunger rods.

Mixture is supplied to each pair of inlet valves through a single pipe coming from a Y immediately above the carbureter, which is carried on the crank case at the right side between the pairs of cylinders. The mixture to each cylinder travels the same distance. The carbureter, of the float feed type, is jacketed, the exhaust being used to warm the mixture. A brass float is used. Air is admitted through two openings, one normally open and the other not. The latter is a perforated sleeve working within a perforated tube, the movement of the sleeve being accomplished by hand control.

Spark plugs are placed vertically in the caps above the inlet valves and receive ignition current from either of two sets of storage batteries. The coil and switch are carried on the dash and the commutator is on the top of a vertical shaft between the pairs of the cylinders at the left side. The shaft is driven by bevel gears from the cam shaft.

Cooling water from the radiator enters the pairs of water jackets above the exhaust valves, being drawn from the base of the radiator by a gear driven pump, driven from the exhaust cam shaft and carried on the crank case. The pipes leading to the jackets are Y'd, causing water to each to travel the same distance. The water exits from the center of the head of each pair of jackets and passes to the top of the radiator. Behind the radiator is a rotary fan carried on a bracket on the motor. The radiator being ovaled on top and the fan large a cool current of air is drawn through practically the whole surface of the radiator. The fan revolves on ball bearings and is belt driven from the crank shaft. There is an automatic device for tightening the belt.

Motor lubrication is provided for by a sight-feed McCanna oiler, carried on the rear of the dash and belt driven from the crank shaft. It has a lead running to each of the three crank shaft bearings. Beneath these bearings are oil wells constantly filled with oil. On the end bearings are single ring oilers and on the center one two. These take the oil from the wells and force it through holes drilled in the crank shaft to the center of the crank pin bearings where by centrifugal force it is forced through the bearing and then drips into the base of the crank case. The cylinder walls and piston pin bearings receive their oil from the splash. A separate lead from the oiler passes to the commutator where the top bearing is oiled after which the lubricant passes down the vertical shaft, carrying the commutator and oils the bevel gears at the base.

The fly wheel is very heavy and bolted to an integral flange on the end of the crank shaft. Within the wheel is the friction cone clutch. Beneath the leather facing on the cone are flat springs that press outwards, tending to increase the friction of the cone. The cone part is released by a left pedal and is engaged by a coil spring. Between the clutch and the three speed and reverse sliding gear transmission are two universal joints, making the alignment of the cone proper at all times and also permit-

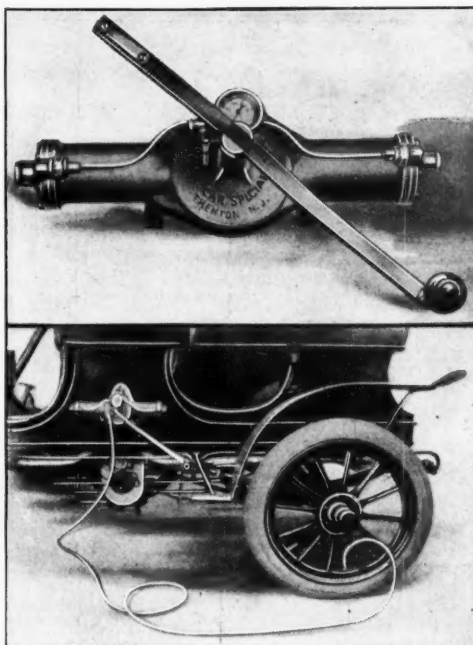
ting of the clutch being taken out without interfering with any part of the motor or transmission gears.

The gear case is carried by lugs on the sub frame and is divided horizontally, midway of the shaft bearings, so that either the main or counter shaft can be removed after the top half of the case is taken off. The transmission gives direct drive on the high speed. Both shafts revolve on plain bearings fitted with oil wells and ring oilers, the oil being supplied by two leads from the oiler, each lead branching to the two shafts at the front and rear respectively. The stationary gears are carbonized and hardened and bolted to flanges integral with the shafts, instead of being keyed or pinned in place. The main shaft is squared and carries the two sliding gears, the front one of which has on its forward side V-shaped teeth for interlocking with similar teeth on the rear side of the master gear on the end of the clutch shaft, for direct drive. The counter shaft revolves on the direct drive. For the first and second speeds ahead the drive is transferred to the counter shaft and then to the propeller shaft. The reverse revolves only when in use and the interposed gear is carried on a separate shaft in the bottom of and at the rear of the case.

Drive from the transmission is through a propeller shaft with double universal joints to the differential on the drive axle. Alongside of the propeller shaft is a torsion rod with a spring bumper at the forward end for reducing the jar on the teeth of the bevel occasioned by a too hasty stop or start.

Three brakes are employed; two metal-to-metal internal expansion ones on the rear hubs and a metal-to-metal one running in oil on the drive shaft immediately in rear of the transmission case. The former are emergency ones applied by the outer lever at the driver's right and when applied throw out the clutch, throttle the engine and apply the transmission shaft brake. The latter is separately applied by the right pedal which when applied throws out the clutch and throttles the motor to its lowest speed. The releasing of the clutch by the clutch pedal also throttles the motor.

The steering knuckles are simple in construction and the rod from the steering gear to that connecting the knuckles has spring buffers in it which allow of the steering wheels following a



THE LEA TIRE PUMP

road rut without undue jar on the steering gear or wheel. The steering gear is of the rack and pinion type and is attached to both the main and sub frame. On the steering wheel is a stationary quadrant with the spark control lever at the front and the throttle one behind it.

BALL IGNITION TIMER

In the Leavitt timer, manufactured by the Brooklyn Automobile Co., of Brooklyn, 5-16-inch steel balls are used for contact points. These balls are retained at the inner end of the hardened steel holder by the end of the holder arching inwards so as to form a seating for the balls and allow about one-fourth of their surface to be exposed beneath the end of the holder. A coil bronze spring, within the holder, keeps the ball on its seating and the upper end of the spring rests against a screw nut threaded into the holder. Surrounding the holder is an insulating collar and two washers which are the only insulating parts between the holder and the brass casing of the timer. The insulation is held in place by being clamped between a flange on the head of the holder and lock nuts on the outer parts of it. The center

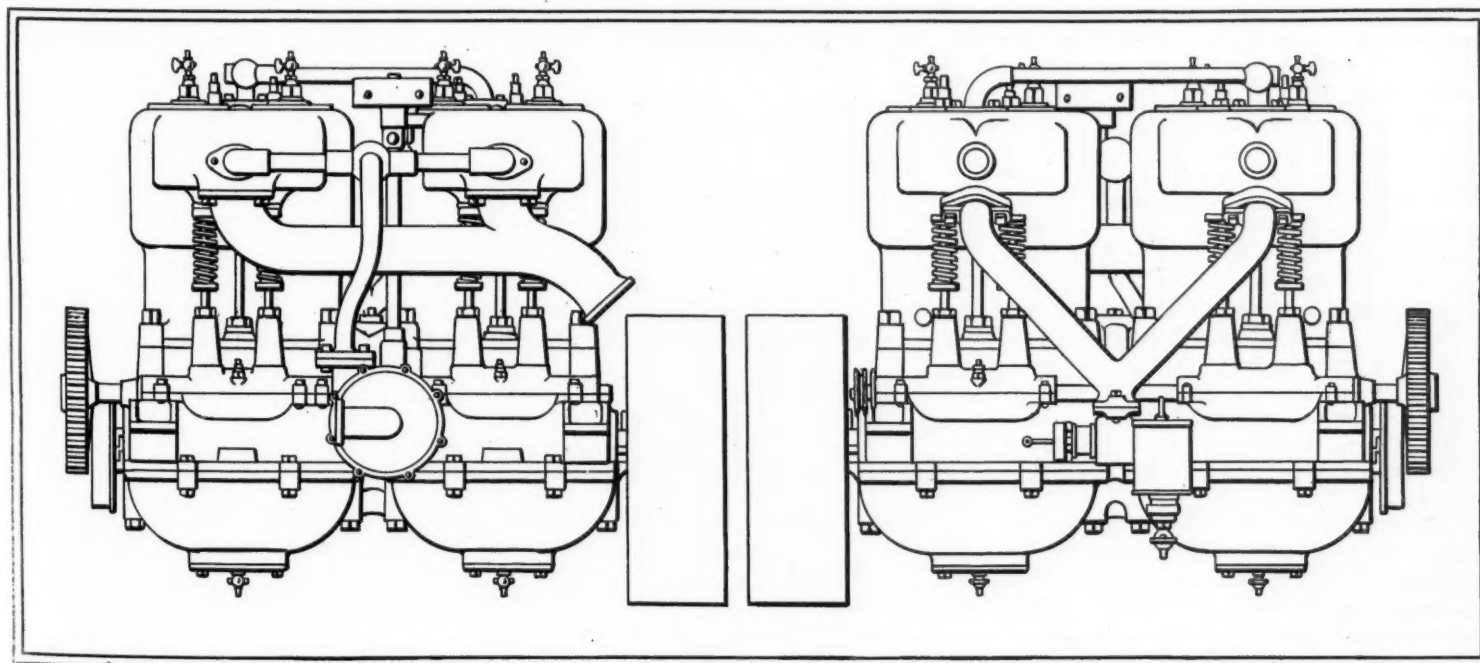
part of the timer is one piece of machined steel keyed to the $\frac{1}{2}$ -inch shaft. On this part is carried the drill rod striker which forms the contacts with the balls. In it is also cut the ball race for the ball bearings used between it and the main casing of the timer. The bearings are adjustable by a washer in the outer casing.

In operation the timer is similar to most others, the inner part revolving and the outer part remaining stationary except when being slightly moved to advance or retard the spark. In the use of balls for contact points, in the outer part, the manufacturer places much of the credit of the timer. The balls are slightly rotated when hit by the contactor and so all grease or dirt is removed, leaving a clean surface for each closing of the circuit.

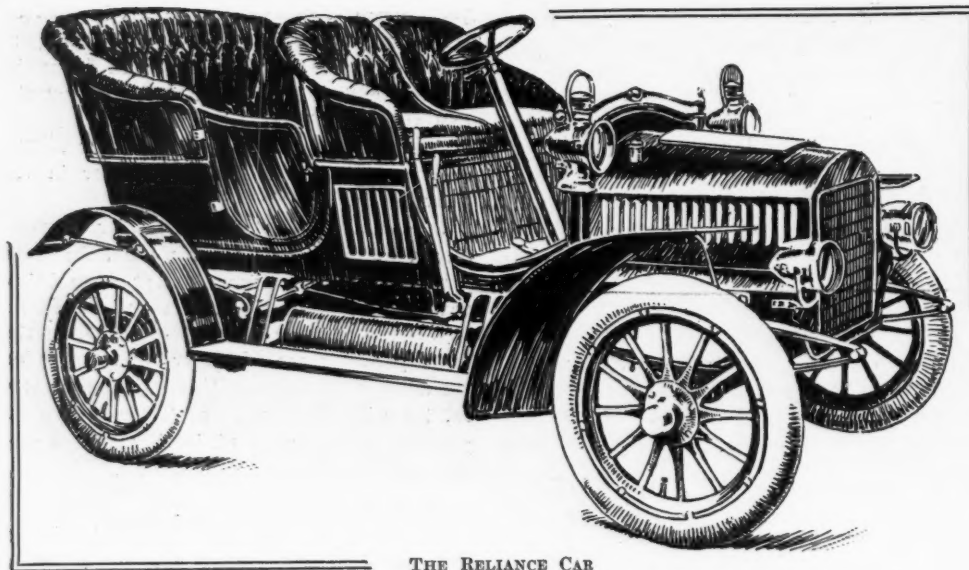
LEA TIRE PUMP

This season has witnessed the introduction of many novelties in the line of tire pumps, among which is that manufactured by the Motor Car Specialty Co., of Trenton, N. J., and distributed by William S. Jones, of Philadelphia, which is known as the Lea tire pump. It is in the form of a double opposed motor with a single casting, serving for the two cylinders and crank case. Within the cylinders are brass pistons fitted with cup leathers for maintaining compression on the pumping stroke. Within the crank case is suitable means for working the cylinders, through a hand crank on the outside of the pump. This crank is supposed to be worked by hand and is adjustable so that when starting to inflate, when the pressure is slight, it can be shortened and turned rapidly and when the tire is almost inflated and pressure is needed it can be lengthened to give increased power. The heads of the cylinders are held in place by screws and in them are the inlet valve casings in which work the brass valves. These valves rest on seatings made of rubber washers. The outlet valves are in the sides of the cylinder heads so close to the heads that the pistons can approach within 1-100 inch of them, and are brass balls held against their seats by coil springs. From these valves metal tubings extend towards the crank case where they unite in a central chamber fitted with a pressure gauge and from which passes the rubber hose to the tire.

The pump is manufactured in two models,



THE EXHAUST SIDE—MOTOR OF THE ROYAL TOURIST CAR—THE INLET SIDE



THE RELIANCE CAR

one for attachment to the vehicle wheel when inflating and the other to be attached to a permanent bracket carried on the side of the car body near the front or rear seat. The former model fastens to the spokes of the wheel by two rubber covered hooks and the other has on the reverse side three feet, two of which slip into pockets on the lower part of the bracket and the third is slotted to receive a thumb nut. The pump handle is detachable and if desired the pump can be left attached to the side of the car. Flake graphite is used for lubrication in the crank case.

THE RELIANCE CAR

This season's model of the Reliance touring car, manufactured by the Reliance Motor Car Co., of Detroit, is of the two-cylinder double opposed type of motor combined with sliding gear transmission and single chain drive to a live rear axle.

A comparatively short angle steel frame is carried on four full elliptic springs. The motor and transmission are carried on two cross pieces midway of the front and rear road wheels. These pieces have a double drop, a slight one at the right side for carrying the transmission and a deep one at the left for carrying the motor. Both pieces rest on the top of the side pieces and are bolted to the vertical side of the angle. On the outside of each side member of the frame are three stirrups riveted in place for carrying the body instead of having it resting on the frame direct. The rear spring hangers have depressions on a level with these stirrups for carrying the body.

Front and rear springs are swung outside of the side pieces of the frame, the front ones being clipped to the front stirrups and the rear ones pivoted on the spring hangers. The upper and lower halves of the front ones are bolted together at the ends but those in the rear ones are shackled, the lower leaves of the top halves being curved, at the ends, similarly to spring horns used with semi-elliptic springs. All springs rest on seatings on the tops of the axles and are clipped in place. Radius rods connect the rear seatings with the frame side pieces and are adjustable by turn-buckles. From the rear ends of the front springs are rearwardly extending shackles that attach to a vertical arm projecting from and riveted to the side part of the frame. This arrangement tends to maintain the spring in its proper position at all times. The rear axle is of the divided live type, with a differ-

ential slightly to the right and the front one is straight. Plain bearings are used in front. The 30-inch wheels are regularly equipped with 3½-inch Fisk tires. The wheel base is 92 inches, the tread standard and the weight 1,750 pounds.

The two-cylinder motor, rated at 16 horsepower at 800 to 1,000 revolutions per minute, is located lengthwise in the car almost midway between the front and rear wheels and at the left side of the frame. The fly wheel, with enclosed friction clutch, is at the right end of the crank case and to the right of it is the sprocket for the chain drive and the sliding gear transmission. These elements considered as a unit have a three-point suspension, two points being at the left or motor side and one at the right.

The motor is cooled by air and water, that part of the cylinder traveled over by the pistons being water jacketed as are the valve ports, but circular air cooling flanges five in number surround that part of the cylinders adjacent to the crank case. The water jackets, cylinder heads and valve ports are cast integral, the ports being on the lower ends of the cylinders. Flanges on the inner ends of the cylinders are bolted to the ends of the crank case and on the top of the case is a large

inspection cap retained in place by bolts.

The crank shaft is a drop steel forging 17-16 inches in diameter and with end bearings 4 inches long. Crank pin bearings are 2¾ inches long and 17-16 inches in diameter. The cranks are mounted at 180 degrees. The connecting rods have babitted bronze bearings at the crank shaft ends and bronze at the wrist pin ends. At the latter end they are split for adjustment and at the other end have a hinged cap held in place at the loose side by nuts and cotter pins. The pistons have four compression rings, three above the wrist pin and one beneath it, these have lap joints and are keyed against rotation. On the bottom part of the pistons are oil grooves intended to be filled from the splash.

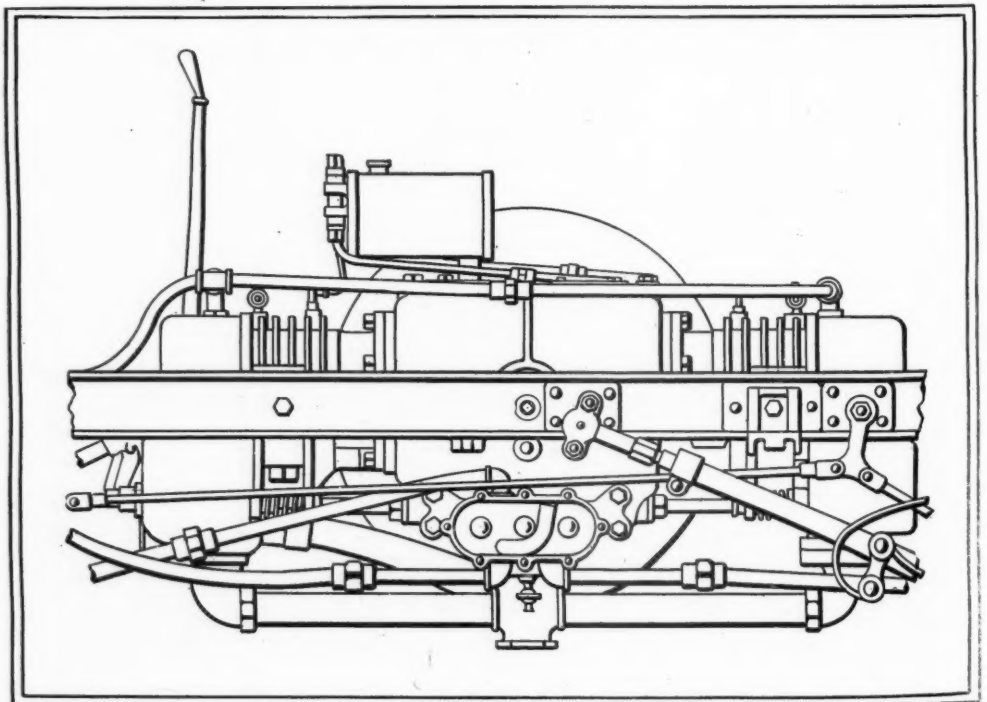
The valves are all mechanical and interchangeable and placed horizontally in the ports. Each is 1½ inches in diameter and has the seat beveled and made integral with the stem. The cam shaft is in the base of the crank case beneath the crank shaft and is gear driven from it. It is 15-16 inch in diameter, is made of hardened steel and has the cams pinned in place.

Mixture to the motor is furnished from a Schebler carbureter carried beneath the crank case at the left, it being immediately beneath a union in the center of the 1¼-inch brass tubing that connects it with the inlet valves. Gasoline feeds to the carbureter from a tank beneath the bonnet.

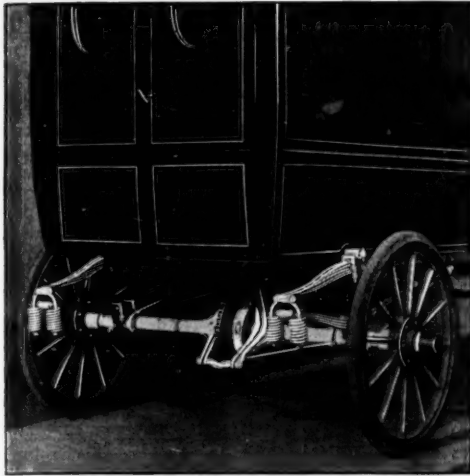
The circulation water is cooled by a horizontal tube radiator forming the front of a false bonnet and is circulated by two gear driven pumps that individually deliver water to each cylinder. The water enters the jackets at the valve ports and passes out from the top center of the jackets. No fan is used. A separate water tank is carried.

Oil is fed to the motor from a 1-gallon oil tank, placed on top of the crank case, through pressure from the crank case. On one end of the reservoir are eight sight feeds, two running to the crank shaft bearings, two to the cylinder walls and two to the connecting rods the oil being distributed by wipe contact. The cam shaft is oiled by splash.

The spark plugs are placed in the center of the cylinder heads and current for ignition is



THE RELIANCE MOTOR AND APPURTENANCES IN POSITION



SUPPLEMENTARY SPRINGS ON FULL ELLIPTICS

supplied from two sets of dry cells of six cells each. The batteries are carried under the right front seat. The coil and switch are on the rear side of the dash.

Power is transmitted from the crank shaft to the transmission through a friction clutch within the fly wheel. The clutch shaft forms the main shaft in the gear case, there being a counter shaft in front and parallel with it and a reverse shaft in the bottom of the case. The sprocket for drive to the rear axle is on a sleeve surrounding the clutch shaft. Two speeds and a reverse are obtained, the high speed being direct drive. Speed changes are made by two levers at the right of the foot-board, the inner one giving the reverse when drawn back and the outer one when forward giving direct drive and when back giving the slow speed. The clutch and change speeds are so connected that gears cannot be shifted when the clutch is engaged.

The only brakes used are on the hubs of the rear wheels and are applied by the clutch pedal, a slight movement of the pedal operating the clutch and a full movement applying the brakes.

A worm and segment steering gear is used, which connects with jaw type steering knuckles. On the steering column are spark and throttle levers, both on the front of the column beneath the steering wheel and connected with bell cranks beneath the car foot-board by two rods in front of the column.

The body is of the double side entrance variety with individual front seats, running side board and roomy rear seat for three. The running gear is yellow and the body dark blue.

QUARTETTE OF TIRE TOOLS

All motorists have experienced trouble at one time or another in removing clincher tires in roadside repairs. Often the lugs are difficult to remove and again it is the taking off of one side of the outer cover that gives the trouble. With the hope of eliminating some of this trouble the Unedme Tool Co., of Columbus, O., has manufactured four little tools that aid in the work. The first is an automatic lug elevator which resembles an automobile jack. Its lower end rests between two spokes near the hub and its outer one against the end of the lug. The jack is lengthened by a handle movement and forces the lug into the interior of the tire. The second tool is a hooked device for removing a part of the casing bead from under the rim flange, the third is for preventing this part of the outer casing from re-entering the cas-

ing, and the fourth is an ordinary straight lever for working the remainder of the tire out of the rim.

SUPPLEMENTARY SPRINGS

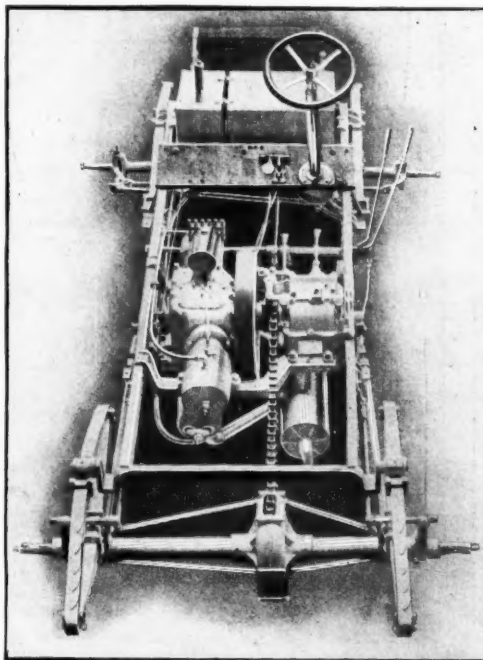
The Supplementary Spiral Spring Co., of St. Louis, is introducing a little device to be used in connection with automobile springs which is intended to absorb considerable jar that would otherwise be transmitted to the car body. The supplementary spring is in short a spring shackle attached in place of the shackle after it has been removed. In this supplementary spring are two coil springs of six spirals each. These springs are hung vertically and separated by the width of the spring. Up the center of each spiral is a rod with an eye hole in the top end and on the bottom a screw for carrying two nuts between which the bottom coil of the spiral and a cross plate joining the coils together, are clamped. The top ends of the coils have eye holes through which passes a bolt for attaching to the end of the spring horn on the frame of the vehicle.

In attaching one of these springs the shackle coupling the vehicle spring to the car frame is removed. Then the bolt passing through the eye holes in the top of the coils is inserted through the eye hole in the spring horn on the frame and tightened in place so that both coils in the spring are hanging vertically. The bolt passing through the eye holes in the tops of the central rods of the coils is put through the eye hole in the spring and tightened in place.

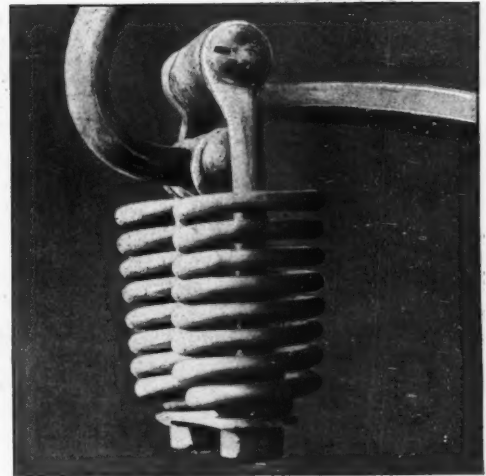
MOTOR CAR LITERATURE

The F. A. M. Helping Hand Book is a thirty-page booklet recently issued by the Federation of American Motorcyclists. As its title suggests it contains information on the operation of motor cycles. The reading matter is divided into three parts. The first contains elementary information on motor cycle principles, the mixture, compression, ignition and lubrication; the second enumerates common troubles and gives hints as to their correction, and the third is treatise on unusual troubles, such as erratic motor running and battery and gasoline difficulties.

The Continental Caoutchouc Co., 298 Broadway, New York, has in circulation a useful book describing Continental tires and containing other and varied information for automobilists.



CHASSIS OF THE RELIANCE CAR



SUPPLEMENTARY SPRINGS ON SEMI-ELLIPTICS

It opens with a description of the factory, which covers 32 acres of floor space, employs 3,500 workmen and 100 foremen and daily uses 14,000 pounds of crude rubber. The metric and American sizes of tires are tabulated and other features are the records made at the recent Florida racing carnival, the speed laws of eighteen states, the gasoline, electric and steam world's records and all track records.

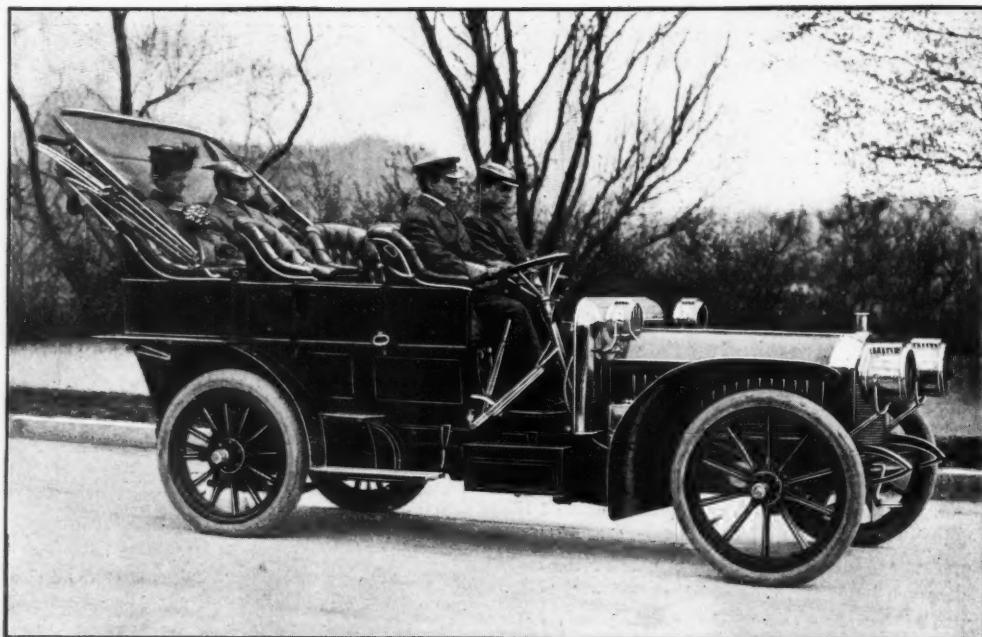
The four-cylinder Cadillac car is fully described and illustrated in a large catalogue entirely devoted to this model. One of the most interesting parts of the book is a two-page sectional side elevation of the car showing different sections of the four cylinders, sections of the clutch, transmission, propeller shaft, differential and rear body, and being made from a mechanical wash drawing. The most important parts of the car are also shown in nine full-page illustrations, each supplemented by descriptive matter. The variable lift inlet valves and counter current muffler receive special attention.

The Grout Bros. Auto Co., of Orange, Mass., offers novelties in trade literature in a small book with alternate pages devoted to uses that the car may serve. The illustrations show the car as fitted for the road contractor, for the sewing machine agent, for the sportsman with dog accommodation and also as intended for regular touring and about-town work.

E. P. Gaylord, of Rochester, N. Y., manufactures what he terms the Ideal vehicle washer. It is a circle of prongs seated in a nut that can be attached to the head of a hydrant hose. Surrounding the prongs is a washer for drawing the outer ends together to hold a large sponge between them. The water from the hydrant flows through the sponge, keeping it constantly filled. The sponge can be used for washing any surface without danger of marring, as the prongs are entirely covered by it. The washer is illustrated and described in a small catalogue now being circulated.

Three styles of E. & J. gas lamps and a generator, made by the Edmunds & Jones Mfg. Co. of Detroit, are illustrated and described in a catalogue just issued by the company. One lamp model is mounted on a swinging bracket and the other two on stationary ones. The generator is made either round or square.

Charles E. Miller, 97 Reade street, New York, in his latest automobile catalogue shows practically everything from a cotter pin to an automobile top and illustrates nearly everything sold. Two hundred pages are needed for the enumeration of the parts carried. Many



FIRST SIX-CYLINDER NAPIER BROUGHT OUT BY NAPIER MOTOR CAR CO. OF AMERICA, OF BOSTON

styles of water and air-cooled vertical and horizontal motors are shown and several models of sliding gear and planetary transmissions. Considerable space is given to appliances for motor boats and to goods supplying the needs of motor cycle riders. The line of imported parts and accessories is large.

Automobile bodies of limousine, landaulet with extension front, carriolet without extension front and doctors' patterns, manufactured by the C. R. Wilson Body Co., of Detroit, are shown in a recently issued cord bound folder. Each style is given a page illustration. Those shown form only part of the full line.

The Automobile Exchange & Supply Co., 3939 Olive street, St. Louis, has issued a catalogue, which, like most others of its kind, is brim full of automobile parts and appurtenances. A line of motor boats is also shown and a few pages are given to diagrams and information on the proper wiring of one, two, three and four-cylinder motors.

The Knoblock-Heideman Mfg. Co., of South Bend, Ind., successor to the Miller-Knoblock Electric Mfg. Co., of the same place, shows its products in a small booklet, with three color illustrations of its igniting dynamo and magneto generator. The coils, switches, spark plugs, batteries and other specialties made by the company, and Kingston carbureters and mufflers are also shown.

The Detroit Motor Car Supply Co., of Detroit, which deals in automobile tops, aprons, wind shields, lap robes, water and wind-proof automobile coats and caps, hampers, goggles and lamp covers, describes all of these in its newest catalogue. The tops are made to fit all standard makes of cars and with or without side curtains and rain hoods. The clothing line includes many styles of apparel for lady motorists.

The Upton Motor Co., of Lebanon, Pa., in its 1905 catalogue devotes the pages to brief mechanical descriptions of the Upton car. On the front cover is a side view of the car, which is the only illustration used in the catalogue.

The Ireson Leather & Export Co., 148 High street, Boston, maker of the I-C leather tire tread, deals with the merits and construction of these treads in a small catalogue. The metric and American sizes in which the treads are made are given and also the prices.

The Motor Car Equipment Co., 43 Cortlandt street, New York, is distributing a comprehensive catalogue descriptive of a large assortment of lamps, goggles, hampers, gauntlets, clothing, extension tops, spark plugs, commutators, coils, mufflers, pumps, speedometers, clocks, oilers, jacks, wrenches, chains and tire accessories. Continental tires and Samson treads are included.

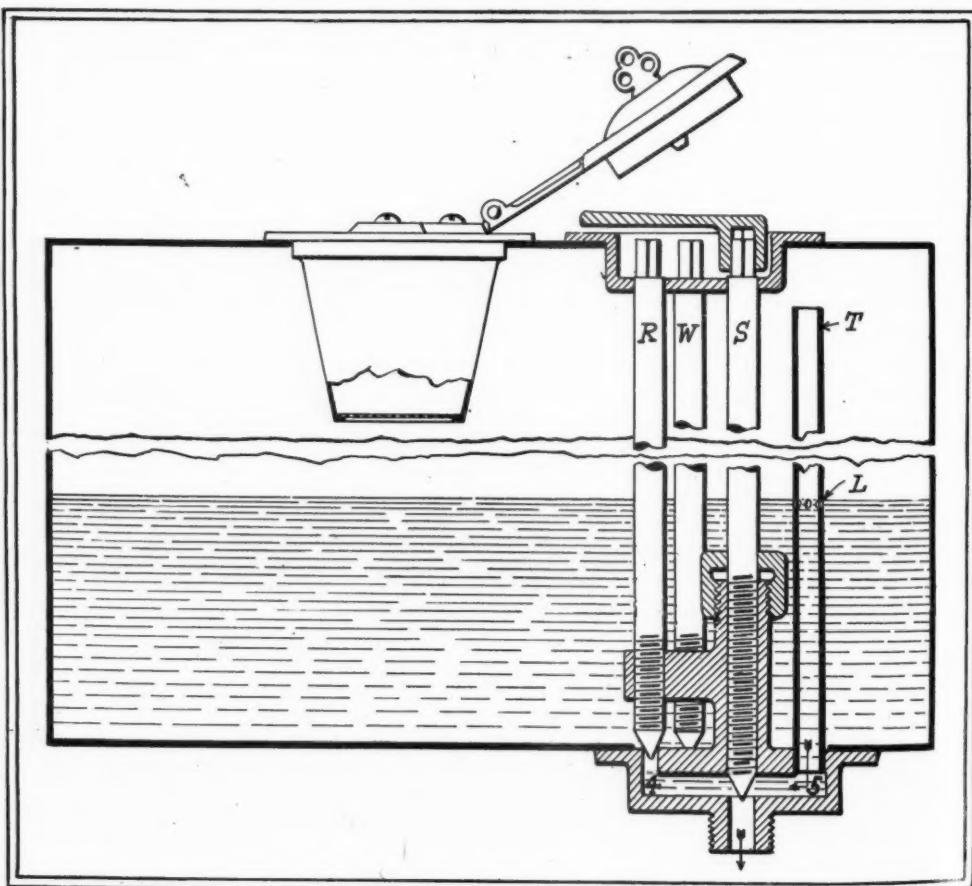
GASOLINE TANK LOCK

W. B. Crawford, 6201 Princeton avenue, Chicago, is introducing a combination device, invented by M. A. Martin, of Chicago, for locking the flow of gasoline from the tank to the carburetor when a car is left standing and which also strains the gasoline when put in the tank, separates the water from the gasoline and also is a signal for notifying the driver when

only a certain amount of gasoline remains in the tank. The device can be attached to the head of a gasoline tank by an ordinary repair man and occupies a space 5 by 8½ inches on the top of the tank.

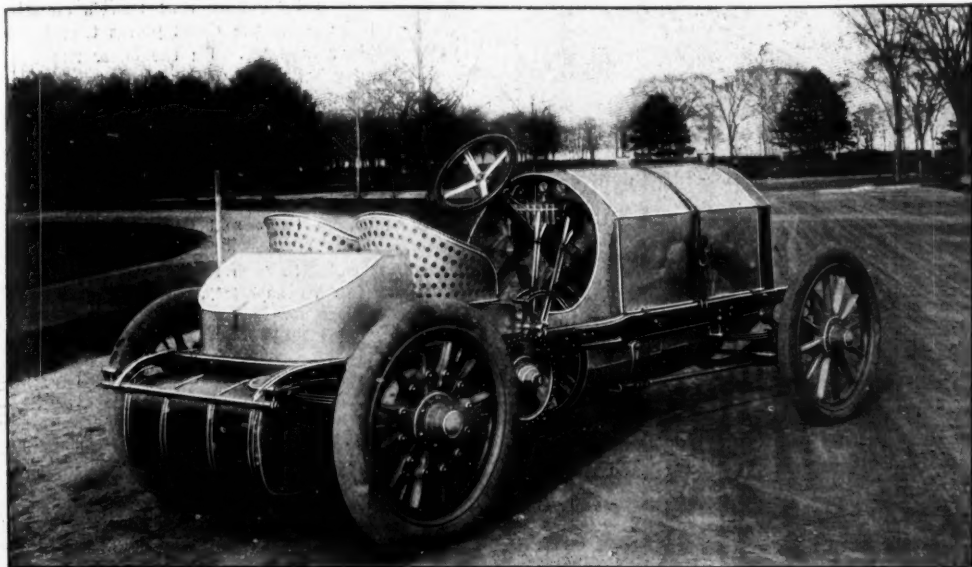
As seen in the illustration, it comprises two parts, one a funnel like strainer, 4 inches in diameter, fitted into the head of the gasoline tank and the other a combination part for performing the other duties. The covering of the strainer screws in place and carries through a hinge a Yale lock which locks into the head of the other part. In this part the basin sits in the base of the fuel tank, being secured there by a flange. In the center of this basin is an opening through which fuel passes to the motor, the flow being controlled by the needle valve S, which extends to the top of the tank and terminates beneath the lock head. When the lock head is removed the valve can be screwed down, closing the opening to the motor and rendering the car safe when left any place. Gasoline in passing to the motor enters the stand pipe T through the openings L, some inches from the base of the tank, but as soon as the gasoline in the tank reaches this level no more passes to the motor and it stops, notifying the driver as to how much remains in the tank. To use the remainder of the gasoline the lock head is removed and the needle valve R raised by a screw, opening the passage 4 and permitting the remainder of the fuel to pass to the motor. The needle valve W closes an opening in the base of the tank that leads outside and is for draining off water and other impurities that settle in the basin. This valve is supposed to be used before the valve R is opened, water being heavier than gasoline it all occupies the basin and bottom part of the tank.

Inasmuch as the valve rods can be made of any necessary length without affecting the working of the device and as the lock top, when closed, occupies very little vertical space above the top of the tank, the device should be widely adaptable.



THE MARTIN GASOLINE TANK DEVICE

MANUFACTURERS' MISCELLANY



THE LOCOMOBILE RACER ENTERED THROUGH THE AUTOMOBILE CLUB OF AMERICA BY DR. HAROLD E. THOMAS, TO REPRESENT AMERICA IN THE BENNETT CUP RACE

Bullet Lamp Patent—Gray & Davis, of Amesbury, Mass., manufacturers of the Gray & Davis automobile and carriage lamps, have been allowed a British patent on their Bullet lamps.

Makers' Estimate of Output—E. R. Thomas, of the E. R. Thomas Motor Co., of Buffalo, while in New York recently, said he believed the output of automobiles in the United States during 1905 would be about 30,000.

Again with Grossman—F. E. Moscovics has resigned as sales manager of the Acme Motor Car Co., to resume his old place at the head of the sales departments of the Continental Caoutchouc Co. and the Motor Car Equipment Co., of New York.

Light Factory Addition—The Continental Caoutchouc & Gutta Percha Co., of Hanover, Germany, will soon erect an addition to its present large factory. The former plant of a match manufacturer was recently purchased for \$168,750 for this purpose.

Northwestern Maker Prospers—Thiem & Co., manufacturers of motors, brass oil cups and other appurtenances, are having a two-story brick building erected at the corner of University avenue and Thirty-eighth avenue, northeast, Columbia Heights, near Minneapolis. From forty to fifty men are to be employed in the plant.

Object to Early Show—Dissension is reported among British automobile manufacturers, some of whom say that the recent decision of the Society of Motor Manufacturers and Traders to hold the London show at Olympia in November is not generally satisfactory, it being impossible to get the new models out before Christmas. The question of holding shows in the Crystal Palace and Agricultural hall is again being discussed.

Object to Segregation—A representative of the White Sewing Machine Co., of Cleveland, in conversation with a Motor Age man, complained that the Worcester Automobile Club in arranging the events for its coming hill-climb makes a separate class for steam vehicles and confines the stock car price classes to gasoline cars and the weight classes practically to racing machines. "We are thus put in a class in which we have no trade competition and are shut out from

showing the hill-climbing ability of the White touring cars against other touring cars selling for from \$2,000 to \$3,000 with one only alternative, an entry in the free-for-all event."

American Rothschild Bodies—A member of the Parisian body building firm of Rothschild & Co. has opened American headquarters at 7 West Forty-second street, New York. He says it is the firm's intention to establish an American plant.

No More Horses—The Pope Mfg. Co., of Hartford, Conn., has dispensed with horses for factory teaming. A single-cylinder Pope-Hartford does the light work, and a new Pope-Waverley truck has just been received at Hartford for the heavy teaming.

Needs More Room—The St. Louis Motor Carriage Co., of St. Louis, which has been working three shifts every 24 hours for the past 6 weeks, is making a great effort to fill its orders. During the past week it looked into the facilities of Curtis & Co., 2201 Washington avenue, with a view of increasing the output of cars this summer.

Missionary Tour—John T. Fisher, in a Pope-Toledo, arrived in Syracuse Friday night from Buffalo, which he left at 7 o'clock Friday morning. Mr. Fisher is going through the state visiting the dealers and boosting the fame of the Pope-Toledo. He spent some time at the garage of the Amos-Pierce Co. in that city, which handles the Pope-Toledo. He expects shortly to try for the record between New York and Chicago.

Homes for Tire Makers—Prominent German government officials assisted at the dedication of the residences which the Continental Caoutchouc & Gutta Percha Co., of Hanover, Germany, recently built for its employees. The land upon which the houses are built cost \$103,000, while the buildings cost \$160,000. Including incidental expenses, the German concern expended nearly \$275,000 in providing these homes for its employees. In connection with the dedication festivities the emperor made Business Manager Siegmund Seligman, who has been with the company since 1876, a private commercial adviser, while Adolph

Prinzhorn, the technical director, was given the fourth-class decoration of the Red Eagle order.

Pressed Metal Parts—The Isaac Kinsey Mfg. Co., of Dayton, O., is about to engage in the manufacture of radiators, bonnets, wind shields, pressed steel frame, fenders and other automobile accessories.

Dealing in Futures—A Cincinnati motorist is said to have given George Barnes, of the Haynes-Apperson Co., of Kokomo, Ind., a deposit a few days ago in order to be sure to get the first 1906 car made by the concern.

Pete Changes Name—The Louis Peter Co., of Frankfort-on-Main, Germany, manufacturer of the Louis Peter automobile tires, has been reorganized under the name of Mittel-deutsche Gummiwaren-Fabrik, and capitalized at \$750,000.

American Car in British Army—Colonel Eustace Balfour, brother of the British prime minister, and General Sir Alfred Turner, used a Cadillac car during recent military maneuvers in Essex, England. It rained almost continually during the 6 days of the military operations, but the car went through the ordeal in good shape.

Paris Show Board Named—At a recent meeting of a committee of the Automobile and Cycle Board of Trade of Paris the following were appointed members of the 1906 show committee: Messrs. de Turkheim, Serpollet, de Dion, Mors, Krieger, Blin, Gobron, Bovet, Petit, Michelin, Max Richard, Kellner, Ducellier, Bocande, A. Peugeot, G. Longuemare and Thevin.

Builds Many Buses—Three new sight-seeing buses, with capacity for forty-five passengers, have just been turned out by the Electric Vehicle Co., of Hartford, Conn., for use in New York. The seats are graduated in height to allow a clear vision ahead by those in the rear seats and the last row of seats towers high in the air. The cars are fitted with canopy tops.

French Mechanics Organized—An association for the protection of mechanics was recently organized in Paris, under the name Mutuel des Mechaniciens. It is under the patronage of the Automobile Club of France, the Touring Club of France and other clubs. A fund has been started for which Marquis de Chasseloup-Laubat, Prince Arenberg and George Heath have each contributed \$200.

Motor Cycle Profit Small—According to British trade papers, while a great many motor cycles are sold in Great Britain, the manufacturers have thus far made but little profit. It is claimed that owing to the competition among the many makers, the prices are so low that unless large numbers of the two wheelers are sold the manufacturer is hardly able to meet his current expenses.

Small Fire in G & J Shops—A small fire last week caused a few thousand dollars damages in one of the warehouses of the G & J Tire Co., of Indianapolis, Ind. As a night force is running in the tire factory the blaze was soon discovered and thus prevented a great amount of damage. The warehouse has recently been equipped with a sprinkler system, but the water had not been turned on.



Current Automobile Patents



Letters patent No. 789,673, dated May 9; to Hans Richter, of Nuremberg, Germany.—In a mixing device for explosive motors is used a rectangular box with a top opening for admitting cool air, a bottom opening for admitting vaporized gasoline and an opening at the left side for the mixture to pass to the motor. The pipe for conveying the vaporized gasoline extends to the center of the box, where it meets the larger pipe for the entering air. On the end of the gasoline pipe is an upwardly opening poppet valve that when open extends into the entrance of the air inlet pipe, closing a part of it. The vaporized gasoline can pass to the motor only when the suction is sufficient to raise the valve and the mixing of it with air is effected by the head of the valve obstructing the air inlet opening.

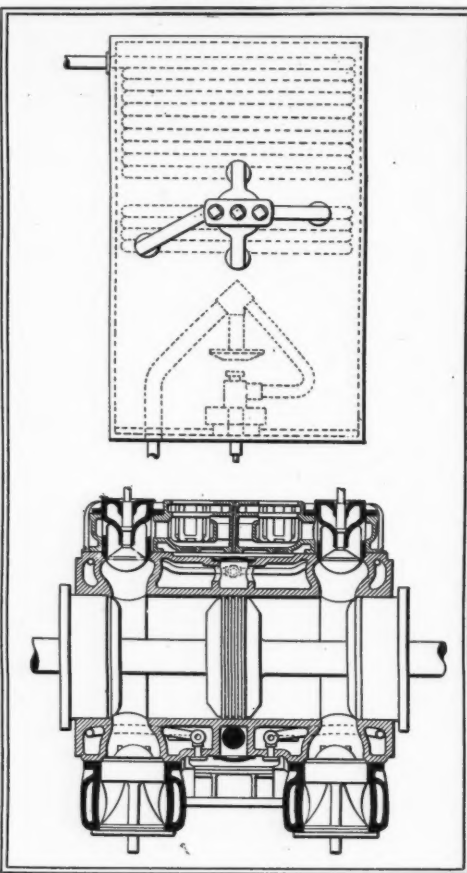
Letters patent No. 789,608, dated May 9; to Ben E. Harvey of Spokane, Wash.—The invention relates to driving a light buggy or other vehicle by push rods actuated from the crank shaft of a motor carried in the box of the vehicle. Beneath the floor of the vehicle and immediately in rear of the front axle is the motor crank shaft placed transversely and carrying pushrods for driving the vehicle ahead. From the crank shaft a chain drives a similar shaft near the rear axle used for driving backwards. The push rods are fastened at their upper ends to the throws on the crank shafts and those on the front crank shafts extend rearwardly, resting on the ground near the rear wheel, and those for reversing rest on the ground near the front wheels. These rods work in guides hanging from the bottom of the body. They work in pairs. From the push rods are strings that pass over a transverse drum in the vehicle, those from the front rods passing over the front part of the drum and those from the rear ones passing over the rear part of it, so that when the drum is revolved in one direction the front rods are raised and the rear ones lowered so that the vehicle can be driven backwards and vice versa for the forward drive. The forward pushrods as well as the rear ones work in pairs, so that there is not any side movement to the vehicle.

Letters patent No. 789,663, dated May 9; to Oscar J. Killip of Redlands, Cal.—This device is for driving through a friction wheel on the crank shaft and a movable friction disk on the propeller shaft to the front wheel of an automobile. The motor is placed beneath the body and in front of the rear axle with the crank shaft crosswise of the car. On the crank shaft is a large friction wheel and bearing against its periphery is a friction disk fastened to the rear end of the propeller shaft that passes beneath the center of the car to the front axle. The propeller shaft is universally jointed and carried in bearings mounted in transverse sleeves so that they can be moved to right or left, thus moving the face of the friction disk on the periphery of the friction wheel and giving different speeds to the shaft. When the outer surface of the disk contacts with the friction wheel there is high speed and gradually as the disk is moved sideways until its center contacts with the wheel the speed is reduced. To reverse the other side of the disk face is brought in contact with the friction wheel. The drive from the front end of the propeller shaft to the front wheels is not new.

Letters patent No. 789,537, dated May 9; to Jules Grouvelle and Henri Arquembourg of Paris, France.—This invention is in connection with the

float in a carbureter. The float chamber is of normal size and gasoline enters in the base, its entry being controlled by a needle valve with its stem attached to the float. The float is small compared with the float chamber and to its base is fastened a perforated plate whose periphery is a sliding fit in the walls of the chamber. The under face of the plate is concave and the plate is filled with perforations. From this plate is an upwardly extending tube enclosing the stem of

THE DAVIS FLASH BOILER



RICHTER'S WATER-COOLED MOTOR

the needle valve for the escape of air from the gasoline. The object of the perforated plate is to give a steady rising and falling motion to the float, so that it is not affected by jarrings of the car while on the road.

Letters patent No. 789,564, dated May 9; to Thomas W. Ranson, Jr., of Cleveland, O.—The

inventor uses an automobile wheel in which the pneumatic tire is retained in a grooved rim and outside of it is another rim carrying a tread portion of steel or solid rubber that travels on the ground. On the felloe are cheek plates that hold the tire retainer in place. On the outer rim are inwardly projecting flanges that fit between the cheeks and are held thereto by short bolts working in slots. The inside of the outer rim rests against the pneumatic tube.

Letters patent No. 789,514, dated May 9; to Charles H. Whiting of New York, N. Y.—In this battery grid is an end piece with several ribbon like strips united to it and definitely separated from one another. These strips are held together at the outer end. In each strip are openings for receiving the active material.

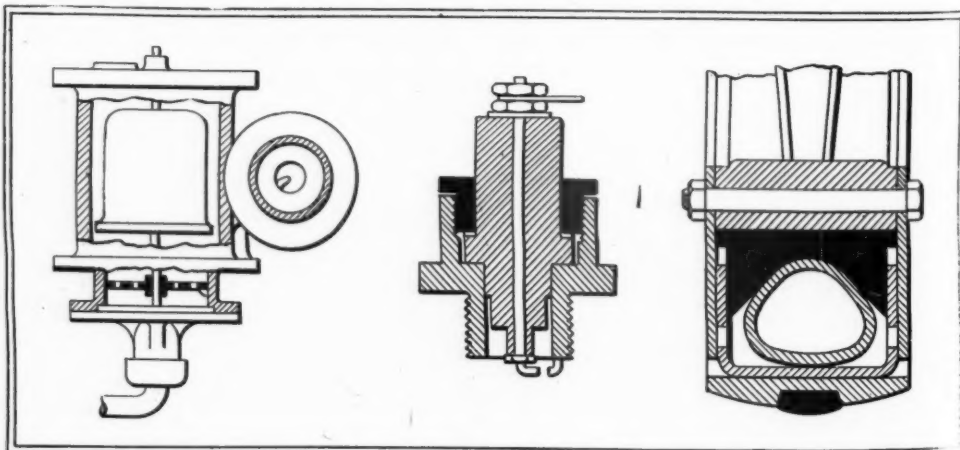
Letters patent No. 789,426, dated May 9; to Adolf Herz of Vienna, Austria-Hungary.—In his spark plug the inventor uses a hollow plug with the inner end open and the outer end covered by a screw cap with a central opening for the porcelain insulation. The insulating block fills the interior of the plug through part of its length, but at the bottom is narrowed so that an annular space is left between it and the sides of the plug. The electric wire passes through the center of the insulating block and at the lower end of the block it carries a metal disk, forming one of the electrodes. The other electrode is the bottom of the hollow plug.

Letters patent No. 789,412, dated May 9; to Josiah S. Cushing of Norwood, Mass.—This tire for automobiles or horse vehicles consists of several helical springs of the same diameter one within the other and each of length equal to the circumference of the wheel's rim. Adjacent coils are arranged so that the coils are not parallel. Enclosing the springs is a tubular casing of rubber or leather which is attached to the rim by flanges or cement.

Letters patent No. 789,414, dated May 9; to Albert G. Davis of Schenectady, N. Y.—In a flash generator for automobiles the inventor uses a heating coil and beneath it a superheating one. Beneath the latter are burner rings and other parts needed. Between the heating and superheating coil is a spider with tubular arms by means of which the flow of water and steam can be continuous from one coil to the other, or if desirable the superheating coil can be cut out and the steam delivered to the engine at its normal temperature.

Letters patent No. 789,382, dated May 9; to Hans Richter of Nuremberg, Germany.—In cooling explosive motors the inventor uses a large water jacket surrounding the cylinders and within this jacket are water tubes through which the water passes and is projected against the valve casings. The arrangement delivers cool water to the valves at all times.

Letters patent No. 789,530, dated May 9; to Wilson L. Fenn and John W. Conway of Hartford, Conn.—This invention relates to the method of fusing a casting with a high fusing point with thin pieces of metal of lower fusing point. The casting is made with shallow ribs on its surface and into these ribs is placed the thin metal, the latter being placed in position in the mould for the casting before the casting is made. When the mould for the casting is being filled the metal forming the ribs surrounds the thin metal pieces, but cools before the thin metal fuses or is injured by the heat of the other metal.

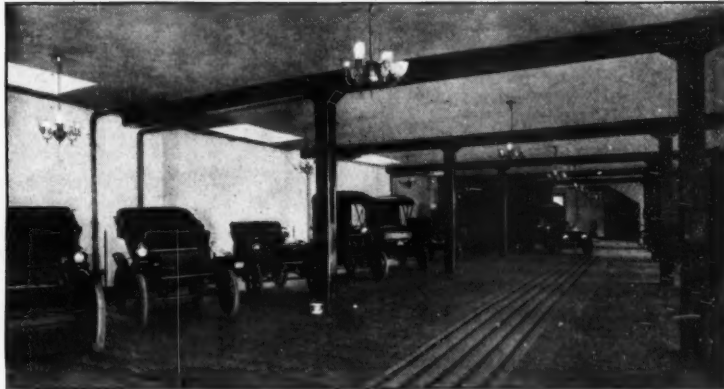


GROUVELLE'S FLOAT CHAMBER

THE HERZ PLUG

RANSON'S COMBINATION TIRE

CURRENT GOSSIP OF THE GARAGES



GARAGE OF THE ELECTRIC VEHICLE & SUPPLY CO., OF MILWAUKEE

Franklin in Badger Capital—J. A. Robinson, of Madison, Wis., has been appointed agent for the Franklin.

An Oxford Tie—Clark L. Webb and John Morton recently organized the Oxford Automobile Co., at Oxford, N. Y.

Franco-American Alliance—Lynn, Mass., has a new dealer in the person of George A. Crittenden, formerly of Boston. He will handle the Darracq, Franklin and Panhard.

Special Salesmen—Frank Hodge, of Buffalo, has resigned from his position with the George N. Pierce Co., and will go to Pittsburg, where he will pay particular attention to the Pierce trade of Banker Bros.

Gallaher in Parts Trade—J. M. Gallaher, widely known in the trade on account of his previous connection with automobile and bicycle papers, is now with the Motor Car Equipment Co., of New York, and will be manager of the branch which the company will open in Chicago.

Prest-O-Lite Anywhere—By May first it will be possible to travel from New York to San Francisco and thence to New Orleans without being out of the radius of dealers carrying Prest-O-Lite gas tanks. The Concentrated Acetylene Co., of Indianapolis, Ind., which manufactures these tanks, has agents in twenty-eight states, and from 350 to 400 automobile dealers who carry them in stock.

Motor Boat Rush in Capital—The motor boat department of the National Automobile Co., of Washington, is developing rapidly. Several carloads of Racine motor boats were received last week and were sold almost as soon as unloaded. The national capital is becoming inoculated with the motor boat microbe and the Potomac river will soon be thickly spotted with such craft.

Meet Demand for Stores—Upper Broadway, New York, property owners are preparing to take advantage of the demand for stores and garages in that district; the Old Guard Armory building at Forty-ninth street and Broadway, is to be cut up into automobile stores, 25 by 45 feet each. Opposite the armory another owner is converting a large building into motor car salesrooms with offices above for the general trade.

Ask Speeding Privilege—Minneapolis dealers are trying to secure permission from the city authorities for speeding on certain streets, in order that prospective customers may be shown the speed qualities of cars they are examining. The dealers claim they cannot always take the car to the country for this trial. It is proposed to have one competent man from each garage licensed to speed cars on specified streets, and under certain restrictions.

Protecting Owners—Many a car owner has found missing after taking his car from the repair shop one or two parts of the repair kit or other parts. This sometimes happens through forgetfulness on the part of the repairmen, and sometimes does not. As a protection against such conditions the McDuffee Automobile Co., of Chicago, has had a number of small lockers placed in the receiving room. When cars come in for repairs all tools are taken from the machines and placed in the lockers, for each of

which only two keys are provided, one for the owner of the car and the other for the manager of the company.

The Three C's—Harry Curran has been engaged as manager of the Clinton garage, just opened at Syracuse by John W. Cronin.

Brooklyn Addition—A garage and repair shop was recently opened at 202 Monroe street, Brooklyn, by the Monroe Automobile Co.

Connecticut Addition—Cheney Bros., of Manchester, Conn., have recently entered the automobile business and have secured the agency for the Walter motor car and Columbia electrics.

Johnny Joins Earl—John S. Johnson, once one of the foremost bicycle riders of the world, has become associated with Kiser & Co.'s automobile store in Dayton, O., in the capacity of general manager.

Queen Visits Cuba—The C. H. Blomstrom Motor Car Co., of Detroit, manufacturer of the Queen, has made arrangement with E. R. Brown, 28 Zulueta, Havana, to handle its cars in the Cuban metropolises.

Buffalo Dealers Broke—Ephraim Bros., of Buffalo, dealers in automobile supplies and sporting goods, have made an assignment. The firm had the Buffalo agency for Continental tires and other lines of automobile equipment. Dai H. Lewis is one of the appraisers of the Ephraim stock.

Waverleys for Doctors—Manager C. Royce Hough, of the Washington branch of the Pope Mfg. Co., has just returned from a trip to the Toledo and Indianapolis factories of the company, where he placed a number of orders for immediate delivery. The Washington branch is having excellent success with the Waverley electrics, having placed 14 of them during the first 2 weeks of May, all the purchasers being doctors.

Unconscious Motor School—One of the salesmen at the garage of J. A. Cramer, of Buffalo, has a new tale of woe. The other day a likely looking man came in and unloaded a bunch of questions which kept the salesman racking his brain for all the details of his automobile information. One car after another was examined; air-cooled and water-cooled motors were discussed; all sorts of problems about ignition and electrical systems were propounded by the stranger and solved by the salesman who did his best. The Cramer line includes five cars. There were some second-hand machines on the floor that day and those were examined with the others. Before the interview was half over the salesman had earned his salary for that and another day and somewhat strained his guessing powers. Finally the stranger moved toward the door. "Wouldn't you like to drive about a little in one of these cars so that I can show you how it works?" asked the salesman. "No, I won't trouble you so much," said the stranger. "I'm building an

automobile at my shop and just dropped in to get some pointers. Much obliged," and he went out.

De Dietrich on Coast—Paul Koechlin, of San Francisco, has taken the Pacific coast agency for de Dietrich cars.

Logan in Stogieville—The Logan, manufactured by the Logan Construction Co., of Chillicothe, O., is now handled in Wheeling, W. Va., by Marsden L. Colvig.

Adds Garage to Shop—Tholen Bros., machinists of Leavenworth, Kan., have the agency for the Cadillac and recently had a garage erected, adjacent to their repair shop on Chawnee street.

Sells Big Ones Quickly—The Caulkins & Post Co., of Middletown, Conn., has taken the agency for the Columbia line of cars. It placed two 40-horsepower cars in its territory the first week of the agency.

To Rent Cars in Los Angeles—A. B. Holson, of Chicago, inventor of the Gyroscope electric motor, now being used on the four-wheel-drive commercial truck of that name, has gone to Los Angeles, Cal., to establish a garage. He will commence by opening a renting and repair station and will afterward take on agencies.

Garage Chauffeurs' School—The Pope Mfg. Co. is to establish in connection with its New York branch a chauffeurs' school. Instructors from the factories where the various types of Pope cars are made will be in charge, and no man who cannot pass an examination will be recommended as a chauffeur. There will be frequent lectures and the demonstrations of cars and their various parts. A nominal fee will be charged each man with a view of keeping out undesirable drivers. The idea originated with Robert E. Fulton, the assistant manager of the garage, and was quickly indorsed by the officers of the company.

Thirty-four Miles a Cent—Harry Unwin, manager of the Harrolds Motor Car Co., of New York, has received a letter from the manager of a big rental concern in San Francisco, giving some statistics of the mileage and cost of repairs of Pierce cars used in its business. The concern keeps close tab on the cars. The manager says that one of the Pierce two-cylinder cars showed over 3,000 miles and 20 cents repair cost the first month; 2,400 miles and \$1.75 repairs the second month, and 2,700 miles and 40 cents repairs the third month. The San Francisco streets are badly paved and there is not a continuous mile of level road, the grades running from 6 to 25 per cent.

Northwestern Pace Maker—The Haynes Automobile Co. agent for the White Steamer in Minneapolis, moved into a new home this week, at 220 Sixth street, south. The new garage is one of the largest and best appointed in the city. It has a clear floor space 165 feet deep, with no posts or obstructions of any kind on the garage floor. The building is 40 feet wide, and a jog two-thirds of the way back gives an additional 10 feet at the sides for locker spaces. Above the locker rooms are the company's offices, on a raised floor. The new garage will accommodate a large number of cars, giving immediate access to any machine. A large repair shop has been fitted up in the rear.





A BUNCH OF EDNA MAY'S CHORUS GIRLS "SEEING WASHINGTON"

Ambulance for Joliet—The police department of Joliet, Ill., is considering the advisability of purchasing an automobile police ambulance.

Highways Discussed in College—A good roads conference is being held this week in Ithaca, N. Y., at the College of Agriculture of Cornell University.

Mail Man Motors—William L. Hughes, a rural free delivery carrier in Hamilton township, New Jersey, astonished the natives last week by covering his route in an automobile.

Tender for a "Special"—James J. Hill of the Great Northern railroad is having a special railroad car fitted so that he can carry his automobile with him as he travels about the country. Mr. Hill owns a Pierce Great Arrow. Charles Patterson, of Buffalo, has gone to St. Paul to drive the new car.

Motors on Danger Side—The trustees of Mill Creek park, Youngstown, O., have notified motorists who drive in the park that they must always ride along the edge of all bluffs, whether these are on the right or the left of the roads. This, it is claimed, will lessen the danger of horses becoming frightened and leaping over the edge of a bluff.

Declares Himself Harmless—Former Mayor De Moulin, of Greenville, Ill., recently purchased an automobile. Through the medium of the local paper he informs the farmers and others who drive horses that they need not have any cause for alarm as he will use his motor car most carefully on the country roads as well as elsewhere, and stop his car and help people whose horses become frightened.

Dealers Support Y. M. C. A. School—A school for automobilists will likely be started by the Y. M. C. A. of Cincinnati if an investigation now on foot by General Secretary W. D. Ball promises a success for the venture. This Y. M. C. A. was the first one in the country to start a law school and the idea has been copied by associations in many other cities, but the town is so hilly that it has not been deemed advisable to start an automobile school heretofore because of the scarcity of

automobiles compared to the size of the city. Dealers have agreed to pay tuition for purchasers rather than do the teaching themselves as heretofore.

Few of Each—More than fifty automobiles have been sold thus far this season in Dayton, O. Among them are cars of about a score of different makes.

An Antidote—The Whip and Mount Club has been organized in Scranton, Pa., by local horsemen for the purpose of encouraging horse riding and to aid the enforcement of the automobile law.

Would Be None Left—Edward Biddle, a wealthy Philadelphian, in an open letter to the Quaker City papers, advocates taking away the offender's license for a year in every case where infraction of the speed ordinances is proven.

Road to Country Clubs—The 2 miles of poor road between Philadelphia and the club houses of the Corinthian Yacht Club and the Athletic Club of Philadelphia, at Essington, on the Delaware, is being repaired, and will be ready for use in a week. The clubs, the state and the township will share the expense.

Chance for Free Publicity—As the officials of the New York Public Library often receive visits from persons who desire information of a business nature which trade catalogues generally contain, it has been decided to establish a catalogue department and the officials invite manufacturers to send them catalogues and other trade publications to be kept in this department.

At Racing Gait—The owner of a 35-50-horsepower Rochet-Schneider claims to have made a remarkably fast run from New York to Atlantic City on Sunday, May 7, and exhibits a schedule of times in support of his statements. He claims to have made the run, stated by him to be 175 miles, in 5 hours 3 minutes gross, and 3 hours 43 minutes actual running time. He says he left Weehawken at 10:07 a. m. and reached New Brunswick, via Newark and Elizabeth, at 11:30. A stop was made here of 25 minutes. Lakewood was reached at 12:45 and a stop of 55 minutes for

dinner made. The party got to Atlantic City at 3:10 p. m. After 2 hours' rest the return journey was made, he says, in 4 hours 3 minutes.

Does the W. C. T. U. Know It?—A saloon keeper of Muncie, Ind., is increasing his trade rapidly by calling for his customers in his automobile and taking them back home in the car, if they so wish.

Big Percentage in Line—Five of the six automobiles owned by inhabitants of Fort Madison, Ia., were on a tour last Sunday. Almost the entire township turned out to see the departure of the motorists.

Loyal to Home Goods—W. I. Buchanan, formerly director general of the Pan-American exposition, now connected with the London branch of a big American electrical company, has ordered a Pierce Stanhope to be shipped to him at London.

Austrian Local Show—The first automobile show held in Prague, the second largest city in Austria, was opened April 25 by the governor of the province. During the first 3 days the attendance was nearly 5,000 daily. The show is almost exclusively made up of cars and motor cycles and parts made in Austria.

Touring in a Bus—A party of Philadelphians last week took a trip in a Knox bus to the Pocono mountains, and had a glorious time. Three days were consumed on the trip, besides a lot of other things. The jaunt was not entirely "waterless," it having rained for several hours. The round trip of 275 miles was covered without accident, a whole day being spent in the mountains. More of such trips are to be made.

Found the Leak—Thomas Livizey, a Norristown, Pa., automobilist who crawled under his car last Wednesday with a lighted lamp while hunting for a gasoline leak, crawled out again in a hurry and a mass of flames when the vapor ignited. Rolling on the lawn and prompt application by his wife of a stream from the garden hose, which, fortunately, was handy, saved his life; but the machine and frame stable were destroyed, entailing a loss of \$2,000.

Pushed It Along Some—After being hunted for 2 days by a police officer, who held a warrant for his arrest for exceeding the speed limit allowed automobiles, Thomas Lee Shevlin, Jr., captain of the Yale football eleven and all-around athlete, went to Meriden, Conn., Sunday, where the warrant was issued, and asked to be permitted to settle up the case. He was allowed to settle by paying \$40, which he did with the remark: "It isn't worth while to own an automobile if you can't push it along some."

Horse Only to Blame—One of the most unfortunate automobile accidents of the season resulted last week in the death of George E. Allen, of Little Falls, N. Y. The horse which he was driving in company with his wife became frightened by an automobile driven by George Johnson, of Lestershire, and darted up on the street car bank, throwing out the occupants, even though George Baldwin, the chauffeur, had brought the car to a stop and shut off the engine so there was no noise. Mr. Allen struck on the street car track on his head and was killed instantly. Mrs. Allen after the accident said the automobilists were in no way to blame as they did all they could to avoid an accident.

AMERICAN MOTOR LEAGUE

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32 Binford St., Boston.
National Headquarters
Vanderbilt Building New York



THIS LEAGUE

Is Now Collecting Route Information
covering all automobile routes in the important states and will publish road books for motor car users as fast as complete information is received. The A. M. L. is the only organization engaged in this work, and it invites the co-operation of all persons interested. For full information and membership blanks address American Motor League, Vanderbilt Building, New York City.

LEAGUE PROTECTION DISK

The automobile stolen a few days ago from C. R. Hendrix, of Brooklyn, was recovered last week at Troy, N. Y., 150 miles from the place where the theft was perpetrated. When an Automobile belonging to an A. M. L. member is stolen, the secretary immediately prepares a complete description of the machine—if registered at headquarters as it should be—and this description is mailed at once, to every police headquarters within a radius of 500 miles from the point where the machine was stolen; to every known dealer in automobiles and the proprietor of every garage, repair shop and supply station within the same territory; to every prominent newspaper in the state where the automobile was stolen and to important newspapers in surrounding states; to every publication devoted to the automobilizing sport or trade; to hotels and road houses on main routes from the point where the machine is taken. With each notice is sent the announcement that the A. M. L. will pay \$100 for the conviction of the thief. The secretary is sending out this week from league headquarters several thousand circulars and registry blanks explaining the plan and operation of the new department and applications for protection disks are already being received. As a warning to thieves and thugs the carrying of these disks will prove a strong moral force, and the league stands ready to pay its reward of \$100 for the conviction of any thief who steals a machine carrying one of these disks and \$25 for the conviction of any offender who injures the person or property of a member while riding on the public road. The secretary will gladly send printed particulars covering this subject to any user of a motor car who will address a line to league headquarters.

AUTOMOBILE LAWS

A letter has been sent by the secretary of the league to the secretary of state in every state capital where automobile laws have been passed, requesting a copy of the present law governing the use of automobiles in that particular state. Some of these have already been received, and the rest will be in hand within the next 10 days. From these a brief digest will be made in which the substance of each law will be clearly stated, and all will be printed in a convenient pamphlet, for the use of A. M. L. members. The completion of this pamphlet will be duly announced and the distribution will take place at as early a day as

possible. Each member will then have in hand an up-to-date copy of the state laws on this important subject.

Apropos of the subject of state laws, it is noticeable that automobilists are losing sight of one important subject—the state laws relating to guide boards. Most of the states have laws which are intended to supply guide boards at public road crossings, but in most of the states these laws are dead letters. They are systematically ignored by the highway officials and the average citizen does not concern himself. In the state of New York a law was passed 3 or 4 years ago which resulted in the putting up of many hundreds of guide boards which otherwise would never have been thought of. The important part of this law is as follows: "Upon the written application of five resident tax payers of any town or twenty resident tax payers of the county in which such town is located, to the commissioners of highways, requesting the erection of one or more guide boards at the intersections of highways in such towns, the commissioner of highways shall cause to be erected at the intersections mentioned in such application, such guide boards, indicating the directions, distances and names of the towns, villages or cities, to or through which such intersecting highways run. Such applications shall designate the highway intersections at which such guide boards are requested to be erected and may contain suggestions as to the inscriptions and devices to be placed upon such boards. The cost of the erection and maintenance of such boards shall be a town charge. If the commissioner of highways refuses or neglects for a period of 60 days after receiving written application to comply with the request contained in such application, he shall for such neglect or refusal forfeit to the town the sum of \$25 to be recovered by the supervisor in the name of the town, and the amount so recovered shall be set apart for the erection of such guide boards."

Under this law twenty tax payers in any county may compel the highway commissioners to put up all the guide boards needed throughout the entire county. A similar law in every important state is greatly needed, and steps will be taken at the next sessions of the legislatures to obtain a number of state laws similar to that above quoted, so that guide boards may become more general.

LEAGUE HIGHWAY WORK

Printed specifications, illustrated, showing how guide boards should be made and painted—the color, size of board, size of letters, spaces between lines, dimensions of posts and how they should be made, where they should be placed and other pertinent information—have been prepared and are now being distributed by the secretary. On the reverse page of these specifications the subject of caution signs is treated in the same manner, and the method of making, painting and erecting these signs is very clearly set forth, the text being enlivened and made clear by illustrations. The officers of several automobile clubs have written to the league for information on these points, and in every case it has been cheerfully supplied. These clubs are not all A. M. L. clubs, but in the eyes of the league they are all good people and the officers of the league are glad to lend a hand in any good work these clubs may undertake. The guide board and caution sign circulars will be sent to any reader of the MOTOR AGE upon request.

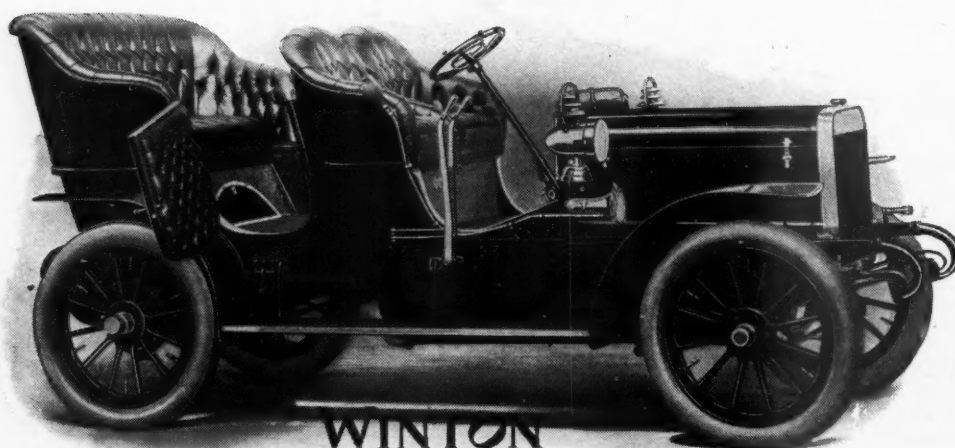
Ten thousand copies of the little circular on "How To Describe a Route" are now being distributed, and when this supply is exhausted more will be obtained. The circular contains the two map cuts which appeared on this page of MOTOR AGE some weeks ago, besides a terse and clear explanation of how a route should be described.

APPOINTMENTS

The following members have been added to the list of local consuls: Dr. Frank E. Wallace, Monmouth, Ill.; George B. Whiteside, Columbus, Ga.; George Henderson, Cedar Rapids, Ia.; R. C. Hammond, Grinnell, Ia.

The following members have been appointed to serve on the road book committees of their respective states: Massachusetts committee, H. W. Braken, Hopedale; New York committee, Fred D. Clark, Prattsburg, and J. S. Allen, Southampton; Ontario committee, J. R. McCollum, Welland; Illinois committee, Sanford Pettitt, Chicago, and F. T. Easton, Rockford; District of Columbia committee, Merton Jarvis, and S. T. Ellis, Washington; Maine committee, A. H. Hinds, Portland; New Jersey committee, Oscar Stead, Trenton, and F. T. Reynolds, Mount Holley; Ohio committee, J. F. Colville, Cleveland, E. C. Rayner, Cincinnati and S. S. Larned, Springfield; Indiana committee, Moses P. Foote, Indianapolis, R. R. Jannes, Terre Haute, and Tolman T. Young, Selden.

WINTON



EVERY CLAIM PROVED

Every claim of excellence made by us on 1905 WINTONS has been completely substantiated by these cars in the service of individual users. The most thoroughly pleased motorists in America today are 1905 Winton owners. One of them, Mr. L. Roy, of Seattle, Wash., says:

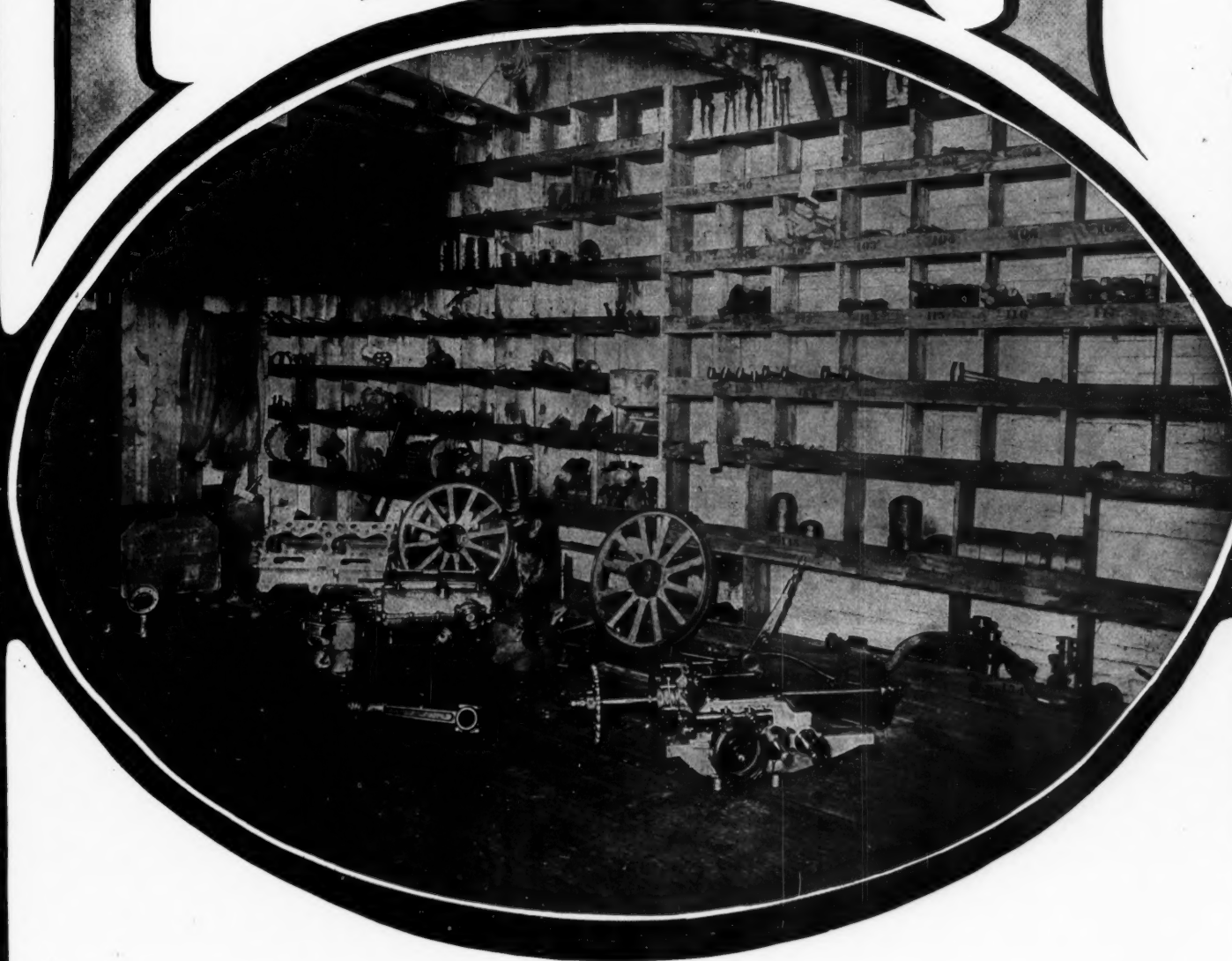
"We are very much pleased with the way our Model C Winton takes the unevenness in the roads. She rides like a Pullman, and the hills she takes on the high gear are a caution. We are also pleased to note how easily the motor can be cleaned; in fact, it keeps the cleanest of any motor I have ever seen. A fellow can remove a plug, or adjust the gears, or oil up, *without ruining a suit of clothes*, which is saying a great deal for an auto. Altogether, we wouldn't give up the little Winton for any of them, and we know that we will be riding in a good Winton when other makes are in the junk pile."

Five Models—16-20 to 40-50 h. p.—\$1800 to \$4500.
Catalog No. 2 describes all models in detail.

THE WINTON MOTOR CARRIAGE CO.
CLEVELAND, Member A. L. A. M. **OHIO, U. S. A.**

Branches in New York, Chicago, Boston, Philadelphia and London. Sales Agencies Everywhere

FIAT



Our Stock of Duplicate Parts

is larger and more complete than that carried by dealers in Cars of domestic manufacture. We can furnish, *on demand*, a duplicate of any part in case of accident. The above illustration shows just a corner of our stock room, which will give some idea of the enormous stock we always carry on hand. :: :: Send for new catalogue.

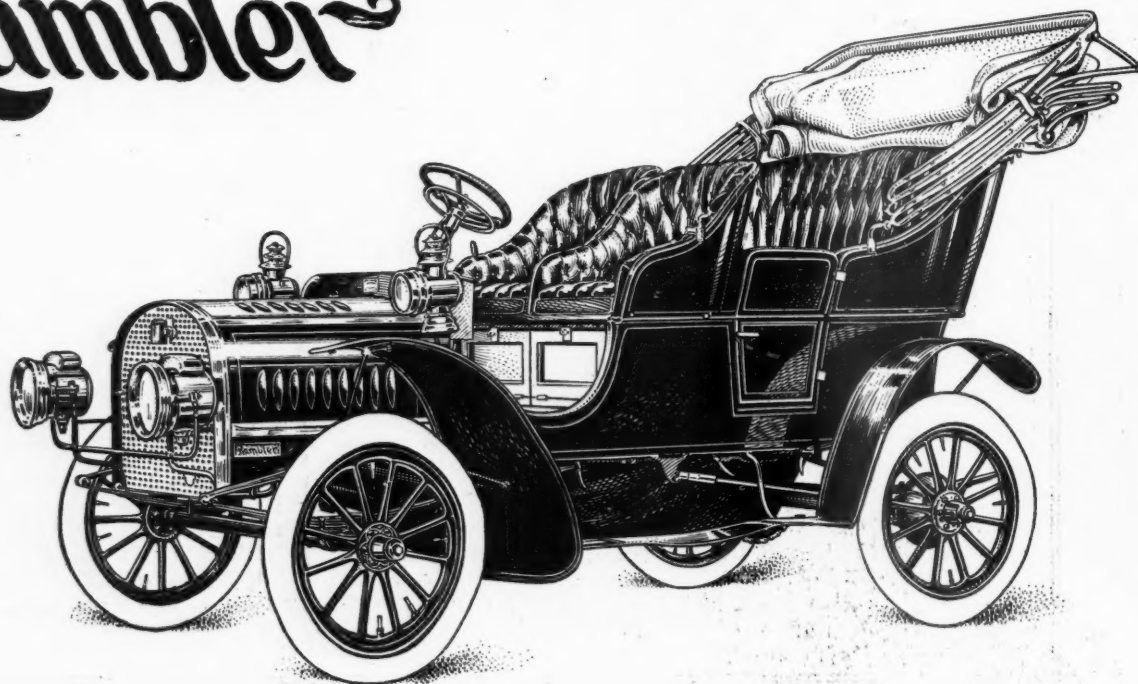
HOLLANDER & TANGEMAN

3 and 5 W. 45th Street, New York

Sole American Agents

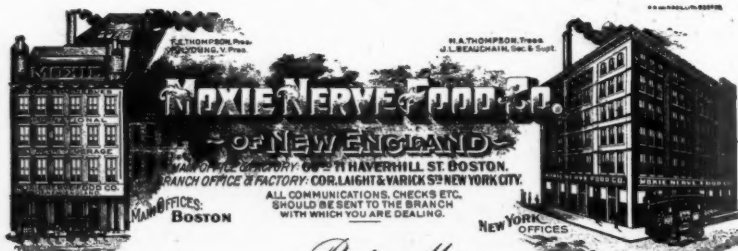
Licensed Importers under Selden Patent

Rambler



Surrey, Type One, 16-18 h. p., \$1,350; complete with lamps, horn, tools, etc. Cape top, \$125 extra.

Other models \$750, \$850, \$1,250, \$2,000, \$3,000.



Boston, Mass., Feb. 7, 1905.

Thos. B. Jeffery & Co.,
Columbus Ave.,
Boston, Mass.

Gentlemen:—

In May 1904, we purchased from you a Rambler Double Cylinder Touring Car, to be used in our business in the distribution of advertising matter, etc. This car traveled something over eight thousand miles during 1904, and gave excellent satisfaction. The actual output for repairs, outside of tires, being only a trifle in excess of \$5, no part of the machine has ever broken down, and the machine was always able to come home under its own power.

We would have been glad to have purchased some of your light deliveries had we been able to obtain them on time, we were, therefore, obliged to purchase cars of other makes, which were not quite so well adapted for our purposes as the cars which you build.

Our past experience with the Rambler has been such that we have been pleased to hand you our order for six Rambler Surreys for use of our men in 1905, and we presume we may find it necessary to increase this order somewhat.

The writer has been running one of your 1905 Surreys for the past few weeks and is very much pleased with it. There has been no repairs or adjustments necessary.

You ought to sell all the Ramblers that you can turn out in 1905.

Respectfully yours,
NOXIE NERVE FOOD CO. OF N. E.

Dict. F. E. T./W.

The order has been increased.

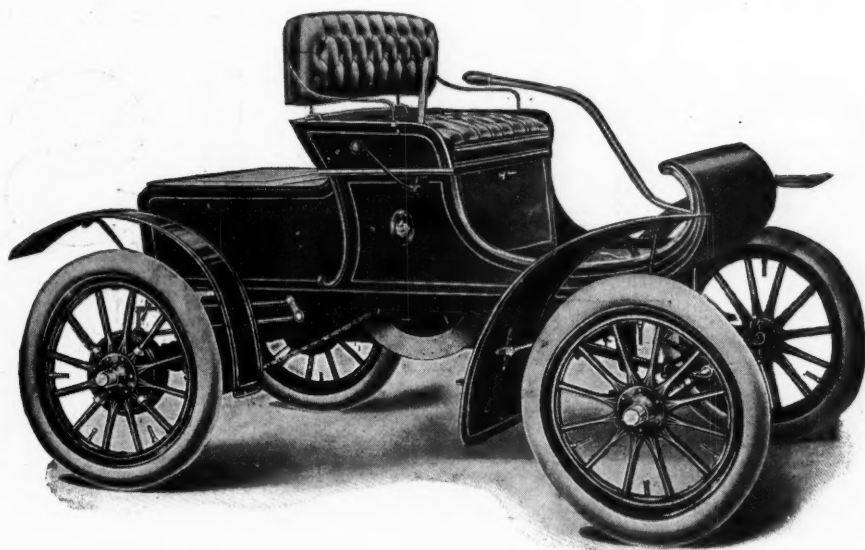
Main Office and Factory, Kenosha, Wis.

BRANCHES: { Boston: 145 Columbus Avenue
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THOMAS B. JEFFERY & COMPANY

OLDSMOBILE



Price \$650.

Everyone interested in automobiles—and thousands who are not—are watching with daily increasing interest the plucky race between two Oldsmobile Standard Runabouts, now in progress between New York City and Portland, Oregon, a distance of over 3,000 miles. It is a fight to the finish, with a prize of \$1,000 to the winner. Such a contest is only possible to cars of sterling quality.

Here are a few of the reasons why the Oldsmobile Standard, or Curved Dash Runabout, is the car naturally selected for all contests where strength, endurance and thorough dependability are essential.

It has a single cylinder horizontal motor of 7 h. p., the vibration of which is reduced to a minimum by proper balance. Noise of exhaust almost eliminated.

Every part is easily accessible, and every part is made from the very best material.

The carbureter is of the automatic float feed type. It develops the highest horse power at all speeds, and enables the motor to be readily started.

The lubricating system is simple and effective.

The transmission is planetary, having two speeds forward and one reverse, operated by a single lever.

It is an undaunted hill climber.

We cannot tell you all the points of advantage of this make of machine in a few short paragraphs. We will willingly furnish you complete details or arrange for demonstration. Write about this and our other cars. Send for catalog "52."

OLDS MOTOR WORKS

Detroit, U. S. A.



Member Association Licensed Automobile Manufacturers.



THE ROYAL TOURIST

"True Blue"



32-36 H. P.

GUARANTEED

2650 LBS.

\$4,000

Direct Flexible Shaft Drive—Free Driving Axle—Perfect Throttle Control
—Without Mechanical Governor—Positive Automatic Lubrication of Entire
Motor and Transmission—THE GREATEST H. P. FOR WEIGHT OF
CAR AND 5 PASSENGERS.

WRITE DEPT. 2 FOR CATALOG AND NEAREST AGENCY

ROYAL MOTOR CAR CO.

CLEVELAND, OHIO



Canadian
trade supplied
by the Ford
Motor Co. of
Canada, Ltd.,
Walkerville,
Ont.

The "Blue Ribbon" Car

THE FORD was the first practical car with a double opposed motor to sell at a moderate price.

THE FORD was the first American made automobile to clip seconds off the mile record.

THE FORD was the first car built with a view to low cost of maintenance, and today is the cheapest car of its class to maintain.

THE FORD was the first automobile to be shipped in train lots to one dealer.

THE FORD was the first automobile popular enough to warrant the establishment of a factory in Canada.

There are lots of other FORD FIRSTS, but the first thing we would like you to do is to investigate the Ford proposition.

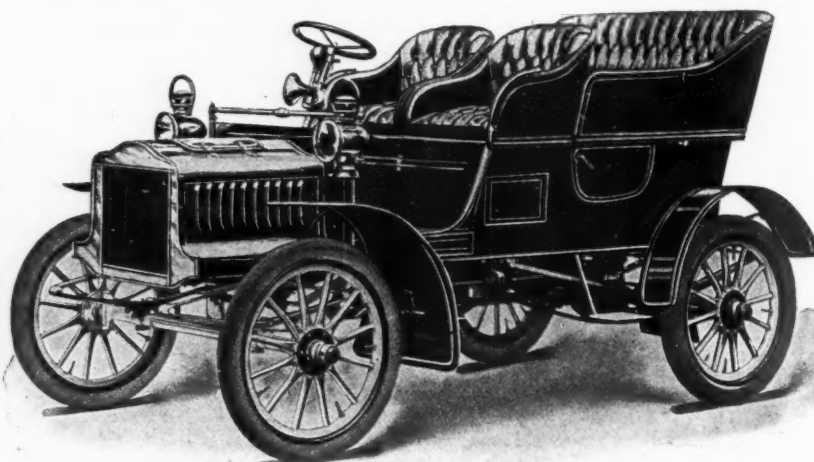
Write for our book on maintenance and get in touch with us.

FORD MOTOR CO., - Detroit, Mich.

Member American Motor Car Manufacturers' Association, Chicago.

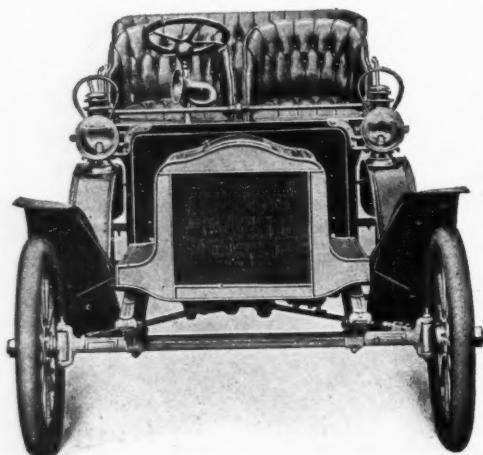
THE QUEEN

MODEL E
COMPLETE
\$1,000



SEATS FIVE
DOUBLE
SIDE DOOR
TONNEAU

ALL SPEEDS ON ONE LEVER



We furnish Two Lamps and Horn

18 ACTUAL H. P.
TWO OPPOSED
CYLINDERS
1600 LBS.
3 to 40 MILES
PER HOUR



Finished in Royal Blue with Cream Running Gear

PRICE COMPLETE - \$1,000

AND WE CAN GUARANTEE

PROMPT DELIVERIES

Your Catalogue is waiting for your address

C. H. BLOMSTROM MOTOR CAR COMPANY :::: DETROIT, MICH.

NEW YORK AGENT, C. A. Duerr & Co., 58th and Broadway.
CHICAGO AGENT, Harry Branstetter, 1466 Michigan Avenue.

BOSTON AGENT, F. E. Wing Motor Car Co., 66 Stanhope Street.
DENVER AGENT, Mathewson Automobile Co., 1420-22 Court Place.
PHILADELPHIA AGENT, The Motor Shop, 317-9 North Broad Street.

There Seems to be Some Question

As to which American gasoline car got up Pecowsic Hill quickest at the Springfield, Mass., Hill Climbing Contest week before last. A regular stock 20 h. p. STEVENS-DURYEA was the car—it beat *all* American gasoline cars, among them being two of 40 h. p.—one 35 h. p.—one 25 h. p., and several 24 h. p. It also beat three 40 h. p. French machines.

The STEVENS-DURYEA made the hill in 37 3-5 seconds; this was at the rate of 38 miles an hour on a grade varying from 2 per cent to 10 per cent and a winding hill half a mile long. The Stevens-Duryea had never been over the hill before, while some of the other cars had been practicing on it for a week. The speed was so incredible that we had to take the engine apart afterwards and show that it was not larger than regular.

There's no magic about this phenomenal performance—we expect to repeat it every chance we get. The reason is that the

Three Point Suspension

of the "Power Plant" delivers power to the rear wheels with less loss and this power has less car weight to move.

The STEVENS-DURYEA gets one horsepower at the rear wheels for every 90 pounds car weight, an efficiency of over 90 per cent as against 50 to 80 per cent on other cars, and the three point support reduces weight about 400 pounds. Don't be misled about horsepower of the engines—it is horsepower at the wheels and weight of the car that you want to inquire into. No other car can make the weight and delivered horsepower without copying the three point suspension of the Stevens-Duryea, and that is patented.

Our booklet tells what this Three Point Suspension is and why it makes the above performance possible. Don't let all your friends get it first.

eting included a
ned by William
r Motor Car Co.,
ial steamer of 50
George Cannon;
Dietrich cars, two
ayer and one by

Another noteworthy performance was that of the 20-horsepower Stevens-Duryea, winner of Class D, and which in the free-for-all defeated all competing American and foreign cars except the 60-horsepower Napier racer, and landed in second place in 37 3-5 seconds, only two seconds behind



TOP OF PECOWSIC HILL, CONNECTICUT RIVER AT RIGHT.

ity; two Thomas
ned by C. S. Hen-
E. R. Clark Auto
several Columbias
which was driven
tric Vehicle Com-
about forty other

the winner. The car was finished at the factory under pressure in order to compete in this contest, and entered minus the usual finished appearance. After the race a protest was made that the car was not a stock machine, but this was found to be untrue, and the place was allowed.

(Clipped from the Horseless Age of May 3d. The Stevens-Duryea is No. 57)

J. STEVENS ARMS & TOOL COMPANY

...Makers of...

The Twentieth Century Hustler

705 Main Street

CHICOPEE FALLS, MASS.

Member Association Licensed Automobile Manufacturers.

GOODRICH Tires Won 7 OUT OF RACES AT ST LOUIS May 7th 1905 8

"The Tire with a Record"

FIRST PLACE to the users of

GOODRICH CLINCHER TIRES

In Seven Out of Eight Events at the St. Louis Race Meet, May 7, 1905, means a preference of the greatest motorists for the tire which in a hundred races has proven itself the

Strongest and fastest of all

From outside tread to innermost fabric the Goodrich Tire is strain resisting.

Neither the speed of the race track nor the pounding of long, hard road runs separate the plies or tear off the tread.

Built as a unit, wears as a unit

THE B. F. GOODRICH COMPANY, Akron, Ohio

Boston, 161 Columbus Avenue

Buffalo, 731 Main Street

Chicago, 141 Lake Street

New York, 66-68 Reade Street and 1625 Broadway

Cleveland, 420 Superior Street

Denver, 1444 Curtis Street

Philadelphia, 909 Arch Street

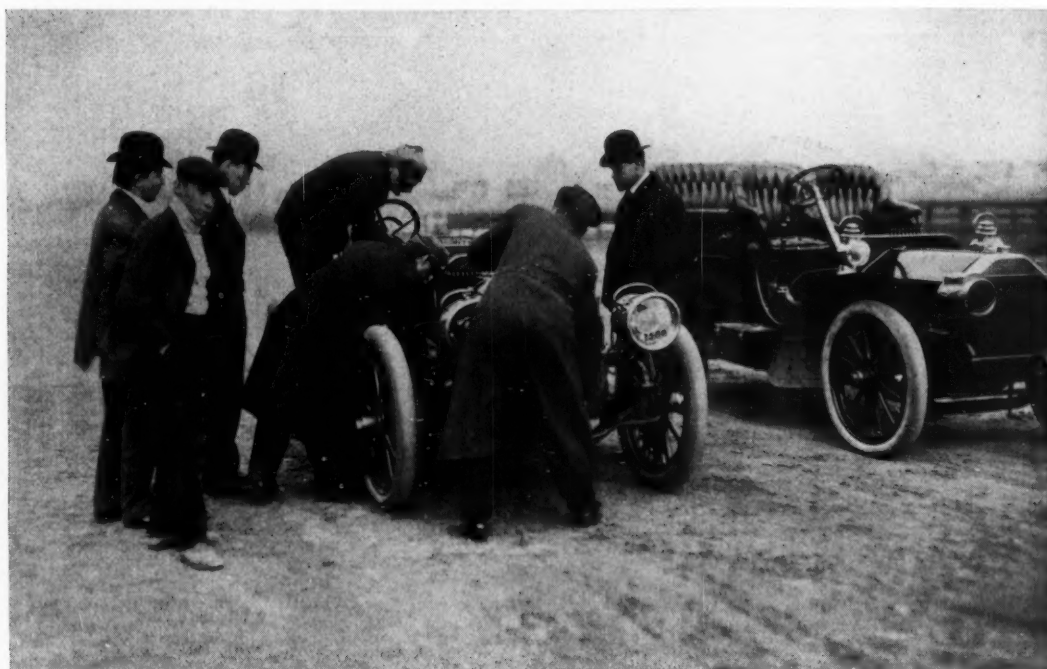
Detroit, 90 East Congress Street

San Francisco, 392 Mission Street

London, E. C., 7 Snow Hill



Peerless Wins Thousand Miles



Cranking Motor at the Start of the 1,000 Mile Race

Miles	Elapsed Time	Miles	Elapsed Time	Miles	Elapsed Time	Miles	Elapsed Time
50 . . .	1:04:04	300 . . .	7:04:40	550 . . .	13:52:03	800 . . .	20:55:56
100 . . .	2:09:44	350 . . .	8:18:43	600 . . .	15:17:15	850 . . .	22:21:36
150 . . .	2:35:25	400 . . .	9:25:19	650 . . .	16:50:06	900 . . .	23:28:36
200 . . .	4:43:04	450 . . .	10:59:56	700 . . .	18:09:59	950 . . .	24:36:28
250 . . .	5:58:36	500 . . .	12:20:34	750 . . .	19:43:55	1000 . . .	25:50:01

1000 mile record in 24 h. p. Peerless

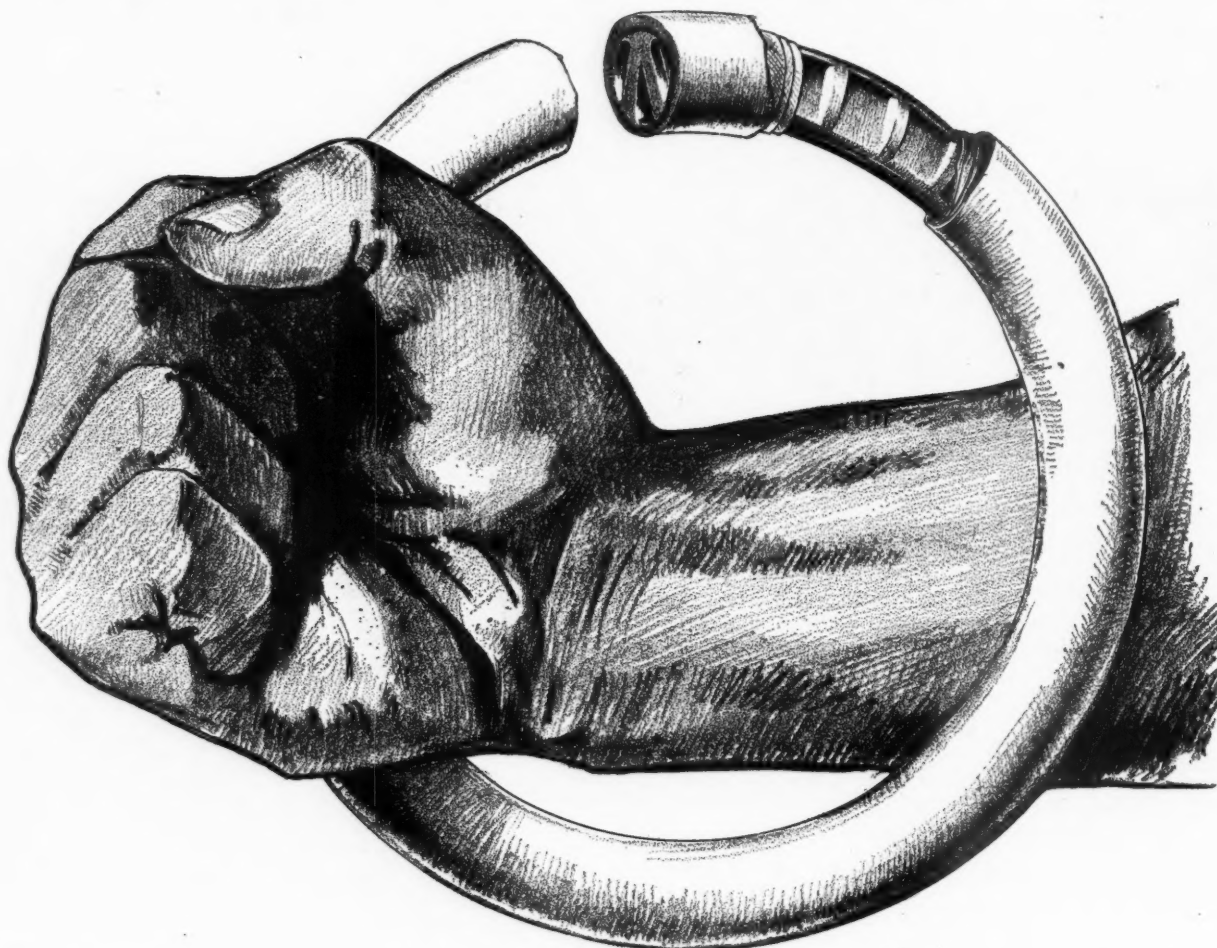
by C. G. Wridgway at Brighton Beach, May 5th and 6th. Beat the previous record by 4 hours, 3 minutes, 31 seconds, and was made without stopping the motor. This is still another victory that proves the significance of Peerless reliability, for a car that can make such a record for 1000 miles can certainly be relied upon to stand the strain of the longest tour and cover the distance in record time.

SEND FOR CATALOGUE AND BOOKLET OF "PEERLESS ACHIEVEMENTS"

THE PEERLESS MOTOR CAR CO., Cleveland, O.

Member Association Licensed Automobile Manufacturers.

WE DEFY



ANY ONE to produce ANY automobile owner who has EVER returned to pneumatics after once having used

FAWKES

INDESTRUCTIBLE, AIRLESS TIRES

No
Pumping

No
Puncturing



Send For
Book of
Genuine
Testimonials

Purchasers of Fawkes' tires may return them within 30 days and get their money back if the tire does not fulfil every claim. What other tire manufacturer will do as much? Find out for yourself by asking a number of them. If you are anxious to overcome your tire troubles, write to us.

MILWAUKEE RUBBER WORKS CO.

Rubber Street, Cudahy

SUBURB OF MILWAUKEE

WISCONSIN

Northern

**We will ship
your order
today**

**7 h.p.
\$650**



Sturdy Northern Runabout

Absolutely the best Runabout on the American market. Stronger, better equipped and better finished than any other Runabout made. Price includes a pair of finest brass oil lamps, imported horn, extra spark plug, tire pump and repair kit, tool holder, and tools for making roadside adjustments.

THE TRUNNION BODY HANGER

A novel and original Northern invention—fully protected by patents—eliminates all vibration and jar from motor and running gear, and insures a perfect alignment of body, no matter how rough the roads. Makes the Northern the most comfortable and easiest riding light car in the world.

SPECIFICATIONS:

Motor 7 h. p. Single cylinder, horizontal design. All parts of motor oiled automatically from one oil cup, minimizing care and attention.

Northern Safety Device prevents back kick of motor. Simple in principle and sure in operation. Start the motor where you will, the spark lever always returns to the "late spark" position.

One Lever controls all speeds. Three speeds—two forward and reverse. Lever can be moved at will while car is in motion without danger to gears.

Carburetor—Northern Improved Carburetor—built to fit the engine—assures a perfect mixture at any speed.

Rear Axle built from Shelby Seamless Tubing, and equipped with roller bearings, requiring no adjustment.

Brake—Double acting band, babbitt lined, bearing on the large differential drum in rear axle, foot operated. Will hold car on any hill. In emergencies, the control lever moved to reverse, acts as an effective brake.

Detachable Tires—28x3 inches.

Fuel Capacity—Gasoline 7½ gals. (sufficient for 200 miles).
Water capacity 3½ gals. (sufficient for 500 miles).

We Will Ship Your Order Today

IF YOU'RE IN A HURRY, USE THE WIRE

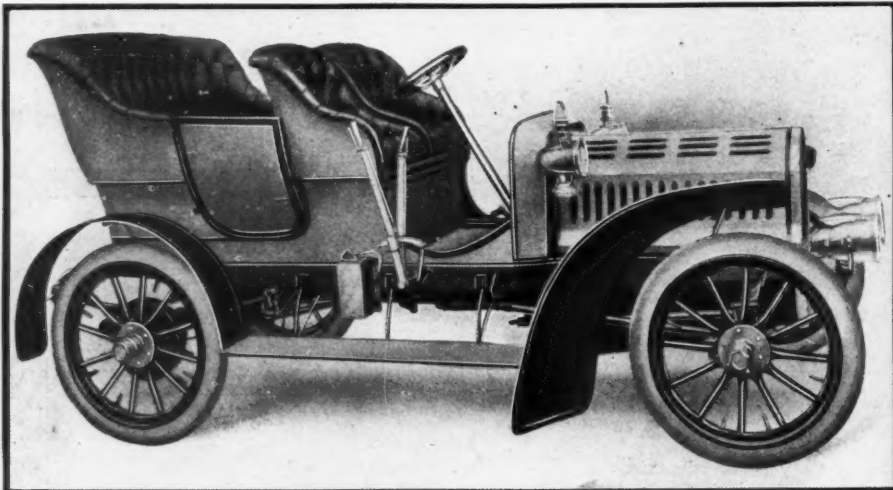
NORTHERN MANUFACTURING CO.

PETER FODARTY, New York City Agent
142 West 38th Street

DETROIT, U. S. A.

Member A. L. A. M.

WE BELIEVE



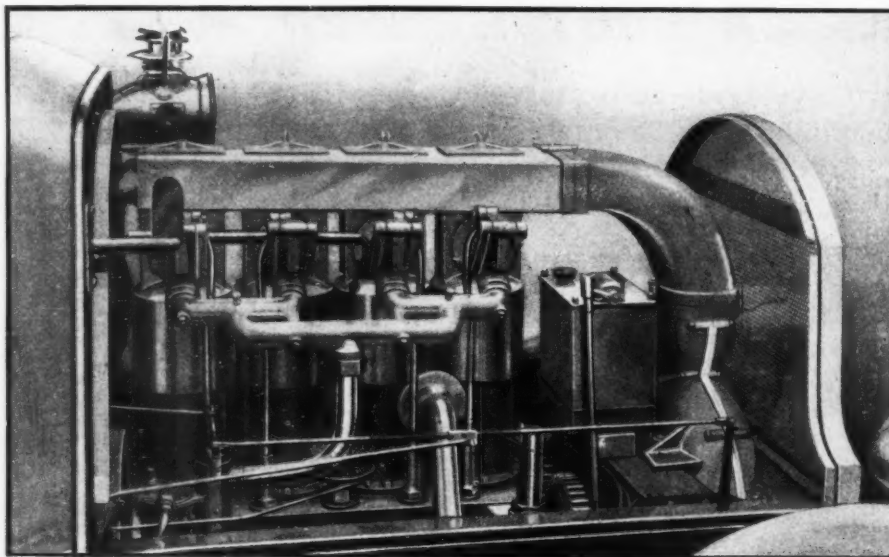
24 H. P. 1850 lbs. 4 Vertical Cylinders
 Cooled by Cold-Air Circulation, not radiation merely; Sliding Gear Transmission; 3 Speeds, Forward and Reverse; Bevel Gear Drive; Side Entrance; Removable Tonneau; No Pump; No Radiator; No Water-Tank and Piping. **\$2500**

IN SHOWING
 AND PROVING
 AS WELL AS
TELLING YOU

WHY

THE 24-H. P.

Frayer Miller Touring Car



THE MOTOR THAT HAS MADE THEM ALL TALK

An aluminum jacket open at the top and bottom completely surrounds each cylinder with a space between the inner shell of the jacket and the outside of the cylinder through which cold air is driven from a large blower fan operated from the engine crank shaft. An aluminum pipe conveys this cold air from the blower to the tops of the jackets. The outside of each cylinder is thickly studded with conical spikes cast on, and through this and about the exhaust valve the cold air is blown at a rate and volume ascertained to be satisfactory. It has been found that this cools the cylinders perfectly, as air can be supplied by this means to whatever extent necessary—the amount is within control. The motor remains cool under all circumstances.

IS IN EVERY
PARTICULAR

BEST

IN THIS ISSUE
 WE SHOW OUR
NOW FAMOUS
AIR-COOLING
SYSTEM

THE OSCAR LEAR AUTOMOBILE CO.

COLUMBUS, OHIO

CORRESPONDENCE SOLICITED

SEND FOR CATALOGUE

Still Another VICTORY!

... THE ...

Witherbee Storage Battery

was used in the **PEERLESS** Car driven by Charles G. Wridgway in his 1000-MILE NON-STOP record made at Brighton Beach on May 5th and 6th, reducing the former record by over four hours.

Over Two Million Consecutive Explosions, Without a Miss

Read Mr. Wridgway's endorsement of our Battery and profit by his experience:

THE PEERLESS MOTOR CAR COMPANY
OF NEW YORK

New York, May 8, 1905.

Witherbee Igniter Company, 26 Thames St., City.

GENTLEMEN: I wish to express my entire satisfaction with the Witherbee Storage Battery Igniter, as used by me in the thousand mile contest at Brighton Beach on Friday and Saturday, May 5th and 6th, and congratulate you upon being able to produce a battery that is entirely satisfactory under the severest of tests; it did not miss one explosion during the whole run and the entire performance of the battery was most wonderful.

Yours truly,

(Signed) C. G. WRIDGWAY, Gen'l Mgr.

PEERLESS MOTOR CAR CO. OF NEW YORK.

USED ON THE FOLLOWING CARS:

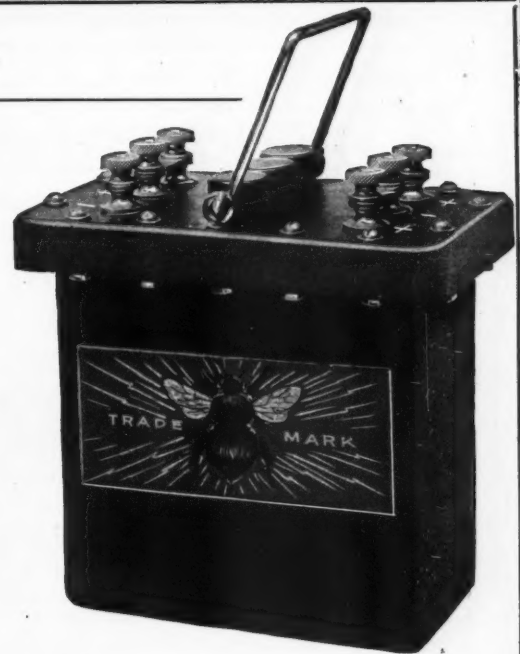
PEERLESS
POPE-TOLEDO
CADILLAC
APPERSON
CORBIN
BATES

FRANKLIN
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MARION

SMITH & MABLEY
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For sale by the leading Jobbers

WITHERBEE IGNITER CO., 26 Thames Street
NEW YORK



"Buy the Battery with the Bee"

Classification Distinctive... WHY?

The Lightest, the Strongest, Most Durable, Most Efficient, Best Finished. Attractive in Rich Finish and Design, Simply Manipulated.



Absolutely Safe, Perfectly Clean, Best to Ride, Most Economical to Keep. Always Satisfactory. A Carriage Any Lady Can Drive.

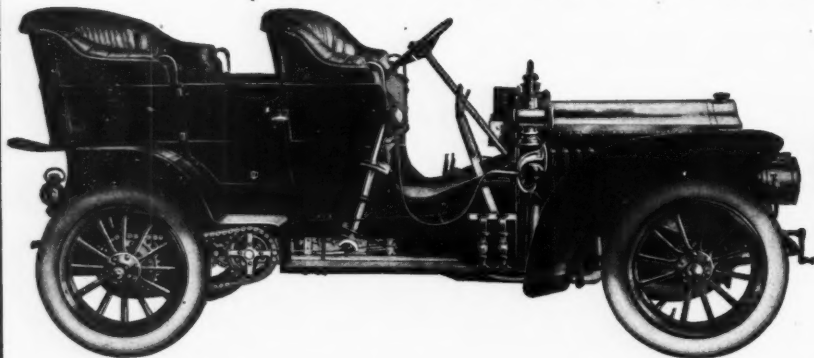
THE BAKER ELECTRIC

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THE BAKER MOTOR VEHICLE CO. Cleveland, Ohio

Chicago Agents: PARDEE-ULLMANN CO., 1400 Michigan Avenue, Chicago

The COLUMBIA product for 1905 is unique in its adaptation to all of the varied requirements of motoring.



Columbia

**GASOLINE
CARS** 18 H. P. and
35-40 H. P.

Completely Illustrated and Described in the Handsomest Automobile Catalogue Ever Printed

SENT FREE TO ANY ADDRESS ON REQUEST

18 H. P. Light Touring Car.....	\$1,750
35-40 H. P. Touring Car, Standard, 108-inch Wheel Base.....	4,000
35-40 H. P. Touring Car, 112-inch Wheel Base.....	4,200
35-40 H. P. Royal Victoria.....	5,000
35-40 H. P. Double Victoria.....	5,000
35-40 H. P. Landaulet.....	5,500
35-40 H. P. Limousine.....	5,500

112-inch wheel base Touring Car Bodies are interchangeable with Limousine Bodies. Touring Car Body, separate, \$750; Limousine Body, separate, \$1,800.

Special Catalogues of Columbia Electric Carriages and Columbia Electric Delivery Wagon and Trucks on Application.

ELECTRIC VEHICLE CO., Hartford, Conn.

NEW YORK
134 West 39th Street

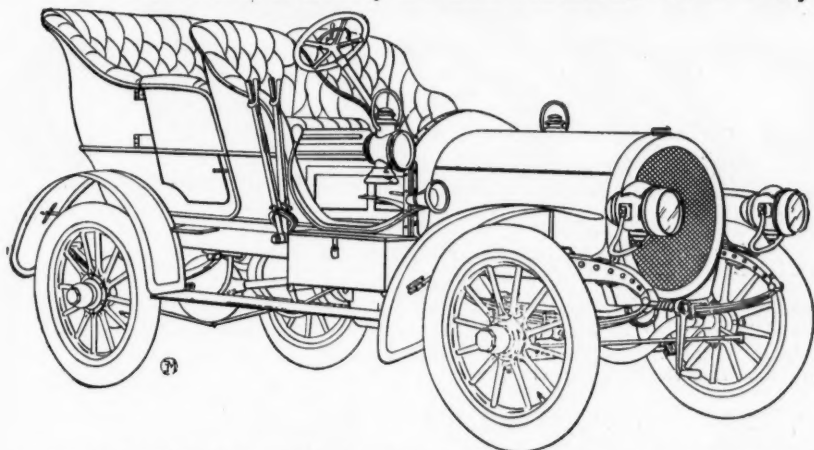
BOSTON
74 Stanhope Street

CHICAGO
1413 Michigan Avenue

Member Association Licensed Automobile Manufacturers

NATIONAL MOTOR CARS *"Watch for the Round Radiator"*

The individuality of the National is a daily advertisement for dealers



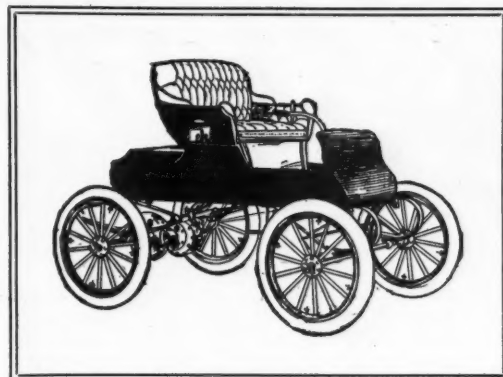
National Model C, Price \$2,500. 4 Cylinders, Vertical, 4 1/4 x 5, 24-30 h. p.

"THE WONDERFUL HILL CLIMBER"

Quiet, easy running, simply controlled. All parts readily accessible. More features of real merit than any other touring car at any price.

Our catalogue is interesting.

Write now.



National Electric Model 50.

EVERY DEALER has certain prospective customers who are prepared to buy National electric vehicles if properly approached on the subject.

Let us familiarize you with these serviceable little Runabouts and Stanhopes.

Our Catalogue is instructive.

NATIONAL MOTOR VEHICLE CO.

Member American Motor Car Manufacturers' Association, Chicago.

1006 East Twenty-second Street

INDIANAPOLIS, INDIANA

DISTRIBUTORS

New York: Homan & Shulz Co., Broadway and Thirty-eighth St.

Boston: Linscott Motor Co., 163 Columbus Ave.

Chicago: Hayden Automobile Co., 1337 Michigan Ave.

Milwaukee, Wis.: Curtits Auto Co.

Cincinnati, O.: S. A. Hooker, 216 E. Third St.

Providence, R. I.: Providence Motor Vehicle Co., 484 Broad St.

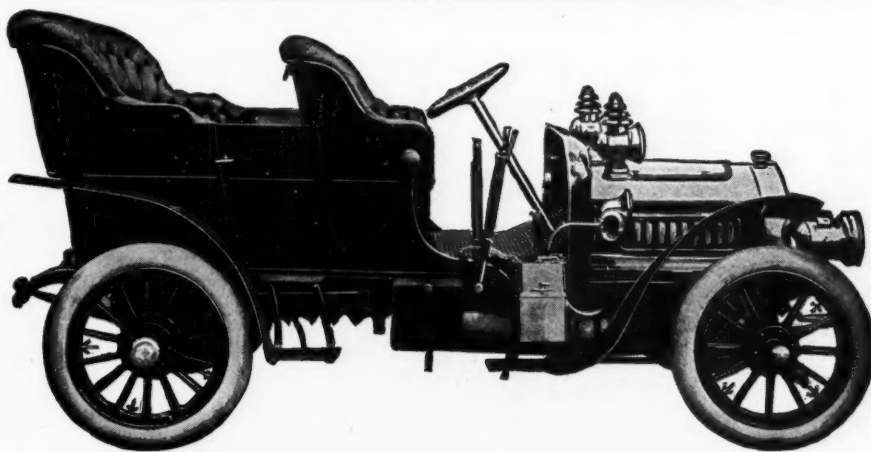
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San Francisco: F. A. Jacobs, 1331 Market St.

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The
Automobile
with a
Reputation
Behind It



"Studebaker
Quality
Throughout

STUDEBAKER

No. 9503 4 Cylinder Gasoline Touring Car

The Automobile driven and pounded over all sorts and conditions of roads is bound "to come to grief" if its bearings are imperfectly lubricated. Experience has demonstrated that the nearer the lubrication system approaches automatic action the more satisfactory will be the service. The **STUDEBAKER CAR** among its many "common sense" advantages, employs

A Direct and Positive Pressure Oiler

Simply fill the oil tank, and by means of a pump, oil is forced under pressure to all bearings, at regular intervals. The oil must "get there," as the pressure is of sufficient strength to overcome any "clogging." Sight feeds on the dash inform the autoist of the flow of oil. There are no leaky grease cups.

SEND FOR CATALOG

STUDEBAKER AUTOMOBILE COMPANY SOUTH BEND INDIANA

Member Association Licensed Automobile Manufacturers.

New York City, Broadway and 7th Ave., at 48th St.
Denver, Col., corner 15th and Blake Sts.
Chicago, Ill., 378-388 Wabash Ave.

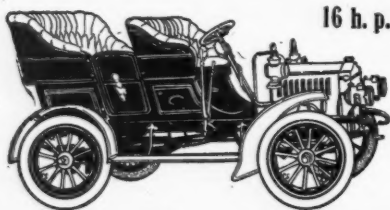
REPOSITORIES:
Salt Lake City, Utah, 157-159 State St.
Kansas City, Mo., 810-814 Walnut St.

Portland, Ore., 330-336 E. Morrison St.
San Francisco, Cal., corner Market and 10th Sts.
Dallas, Texas, 317-319 Elm St.

"The Maxwell"

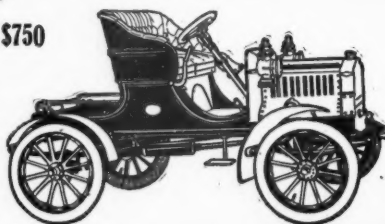
Low Cost of Up Keep

The car that keeps repair bills down, not only makes new friends but keeps the old ones. The owner of a Maxwell does not have to live near a repair shop in order to get any use of his car; nor is he constantly confronted with the possibility of a long walk home. He has an automobile that he can absolutely rely on. The longer he has it the more he realizes that fact and the more he talks about it to his friends. Right there is the basis of the Maxwell popularity.



16 h. p. Touring Car, \$1400

8 h. p. Tourabout, \$750



The "Maxwell" cars have no pump (thermo-siphon). Their double opposed motor is in front under the hood and easily accessible in every part. They have Bevel Gear Drive. Metal Bodies. Transmission Case and Crank Shaft in Aluminum casting. "Perfectly simple and simply perfect."

Maxwell-Briscoe Motor Co.

Member American Motor Car Manufacturers' Association,

TARRYTOWN, N. Y.

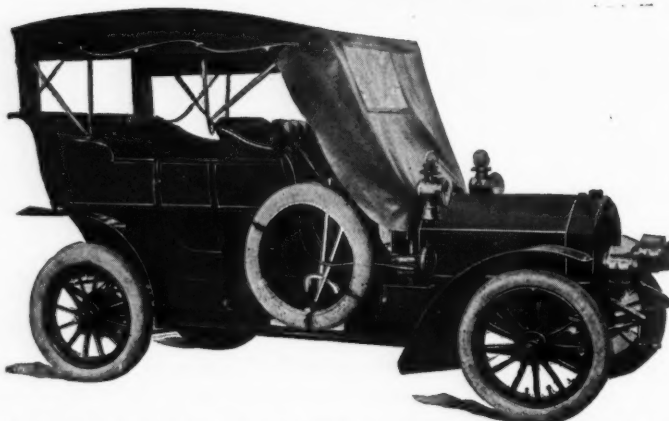
New York City Salesroom, 317-319 W. 59th St.

Chicago Distributors: Western Automobile Co., 1409 Michigan Avenue, Chicago, Ill.

APPERSONSON

30, 40, 50 Horse-power Cars, carrying five or seven passengers.

Open Bodies
Limousines
Full Cape Tops
Victoria Tops



40-H. P. with Top Up and Front Curtain, and Showing Tire on Side of Car

We build a few good cars for those who want the Best

Special cars built for those who want them

WRITE FOR OUR LARGE 1905 CATALOGUE

Apperson Bros. Automobile Co.

Kokomo, Indiana

BRANCHES:

66 West 43d Street, New York

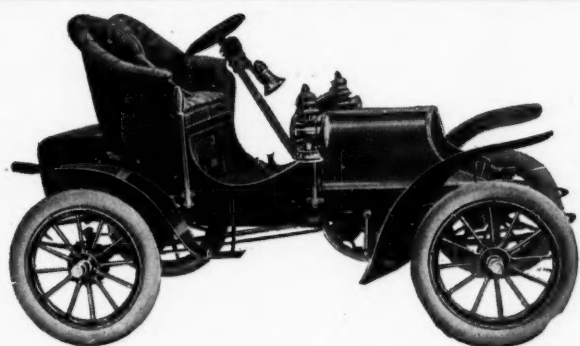
629 North Broad Street, Philadelphia

43 Columbus Avenue, Boston

394 Wabash Avenue, Chicago

[Members Association Licensed Automobile Manufacturers]

FRANKLIN



One of the Perfections

"Little things make perfection," said Emerson; "but perfection is no little thing."

The Franklin auxiliary exhaust

on Franklin cylinders is one of the little things that brings its 1905 engines a step nearer than ever to perfect efficiency.

By allowing most of the burnt charge and heat to escape before the regular exhaust valve opens, the Franklin auxiliary exhaust reduces back pressure and over-heating; and increases power.

A perfected auxiliary exhaust was never before used on a motor-car; and this great improvement is only one of the numerous features which Franklin engineers were first to adopt; and which keep the Franklin foremost among motor-cars.

Six Models for 1905

Runabout. Light Touring Cars, fixed and detachable side entrance or rear entrance tonneau. High-power side-door touring cars. Send for catalogue describing them in detail.

H. H. FRANKLIN MFG. CO., Syracuse, N. Y.

Member Association Licensed Automobile Manufacturers



SWINEHART TIRES



LARGE SAVING OF POWER

On a trip from Philadelphia to Atlantic City and return one of our customers used only 9½ gals. of gasoline in Winton car carrying five passengers. Same car, same load, same route, on pneumatics, used 17 gals. gasoline. This should speak for itself in aiding you to select tires for coming season.

The Swinehart Clincher Tire & Rubber Co.

Write for Catalog M

AKRON, OHIO

The Smooth-Running Car

As the accompanying demonstration proves the Autocar motor does not have the unpleasant jar and shake found in some motors. This is due to the perfect balance of power and weight characteristic of autocar construction. This feature is but one of many which make

AUTOCAR

Type VIII—\$1400

a wonderful automobile value. Illustration shows front of this car—the highest type of light four-passenger car. Rear entrance tonneau, detachable. Twelve horse-power—double, opposed cylinder motor located in front. Ball bearing, shaft drive. Front and rear construction has ball bearings throughout.

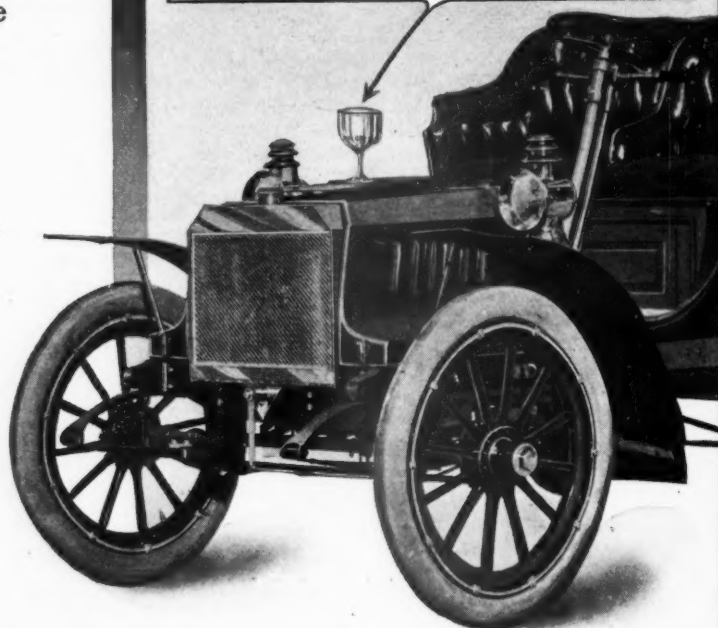
Catalogue giving full description of Type VIII, Type X Runabout, and Type XI Four Cylinder Car, with dealer's name sent free upon request.

THE AUTOCAR COMPANY, Ardmore, Pa.

Member Association Licensed Automobile Manufacturers.

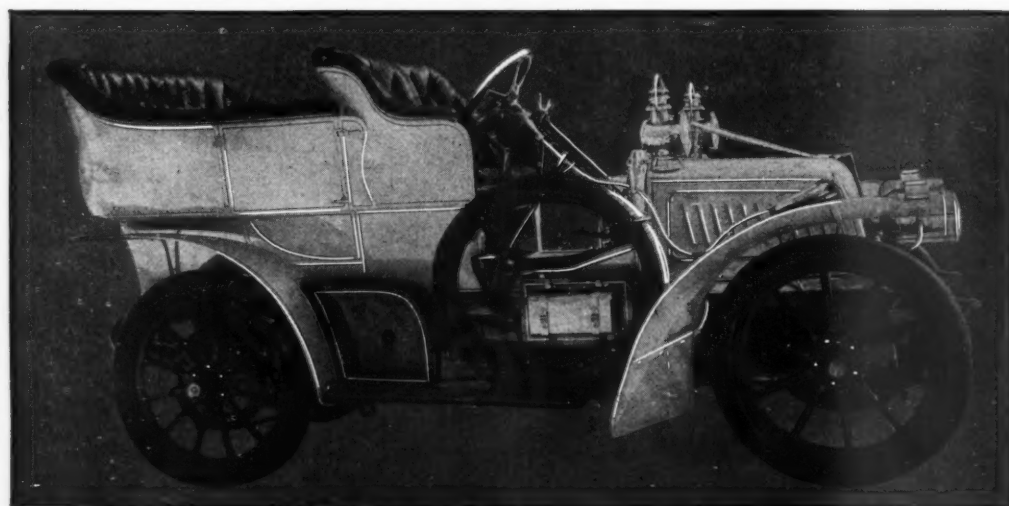
Demonstration of Autocar Non-Vibration

The Autocar motor can be run at full speed with a glass of water standing on the hood over the motor, without a drop of the water being spilled.



WORTHINGTON AUTOMOBILE COMPANY New York City

547 Fifth Avenue



24 h. p. Berg Touring Car

IMMEDIATE DELIVERY

MEMBERS A. L. A. M.

STANDARD PARTS FOR POWER TRUCKS AND WAGONS

The marked economy of power wagons for delivery, express and truck service, and their superior reliability when in reasonably intelligent hands, is so well established that those who are conversant with the facts cannot fail to see that power wagons are rapidly beginning to supersede horse service.

PARTS WE SUPPLY

STEERING GEAR, Complete	CHAINS	COUNTERSHAFT and REDUCTION GEARS
FRONT AXELS, Complete	SPROCKETS	COUNTERSHAFT BRAKES
HUB BRAKES	DISTANCE RODS	MOTOR HANGERS
ELECTRIC MOTORS	CONTROLLERS and Accompanying Details	

SEND FOR CATALOGS Nos. 2, 3 and 5.

TOURING CAR PARTS, CATALOGS Nos. 6, 7, 8 and 9

The Garford Company, Elyria, Ohio.

Selling Agent: HAYDEN EAMES, American Trust Bldg., Cleveland

PENNSYLVANIA CLINCHER

A tire made to allay some of the troubles of the man behind the wheel.

A tire which will be the last part of the car to need repairs.

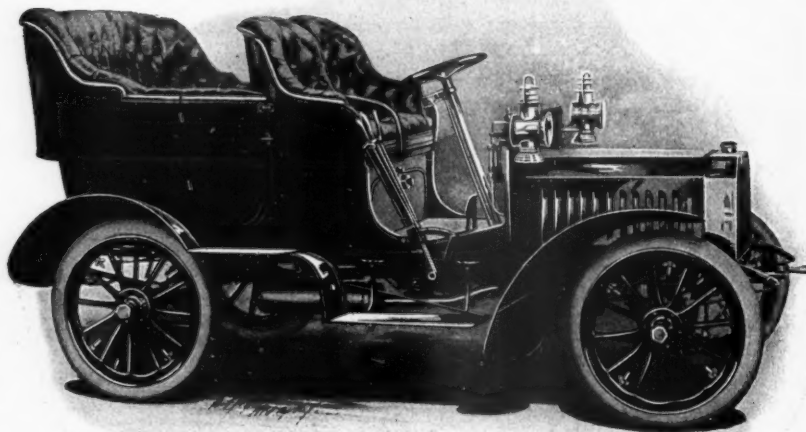
PENNSYLVANIA RUBBER CO. JEANNETTE, PA.

Compound Light Touring Car

One of the "Quality Cars"

Plenty of power and speed.
Absence of vibration.
Odorless exhaust.
Great durability on account of extreme care used in manufacturing.

When you go touring in a Compound you have that confidence which comes from knowing that all the care that is necessary is to see that the gasoline, oil and water tanks are properly filled, which is the evidence of "true quality" in a motor car.



Model 4

12-15 H. P., \$1400

The E. H. V. Co., Middletown, Conn.

New York:
Hatch & Co.,
514 West 122d St.

Milwaukee:
Geo. Poppert,
417 Poplar St.

Boston:
Alex. S. Rampell,
264 Columbus Ave.

Brooklyn:
Parkside Auto Station,
172 Parkside Ave.

Bristol, R. I.
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Compound Auto Co.,
416 S. Salina St.

Hartford:
Automobile Exchange,
1100 Main St.
Lockport, N. Y.
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165 Pine St.

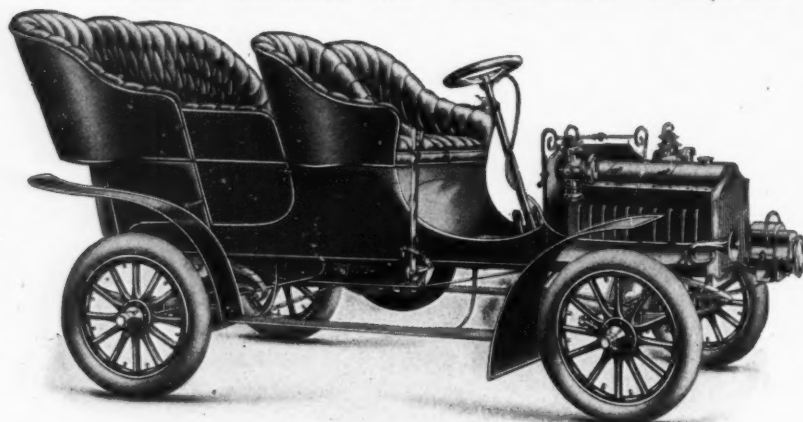
The Powerful DOLSON

The Strongest Car in
America at the Price

\$1350

COMPLETELY EQUIPPED
AND READY FOR
EXTENDED TOURING

ALL KINDS OF TALKING POINTS AND REAL MERIT



The DOLSON is the strongest, most powerful car in America for its price. It is a hill climber par excellence, has plenty of speed, easy of control, beautifully designed, handsomely finished and upholstered. Wheel base, 90 inches. Wheels, 30 inches. Tires, 3½ inches front, 4 inches rear. Large, roomy tonneau, seating five persons comfortably.

In design, material, workmanship and specifications, the **DOLSON** compares favorably with high-priced cars, and it is listed at a price that enables agents to sell quickly and duplicate orders. We can and will make deliveries as specified.

Don't wait too long. Get in line now.
Write for further particulars.

1905 MODEL C. Price, \$1350.00

Including two oil side lamps, acetylene head light, French horn, mats, full tool equipment, ready for extended touring.

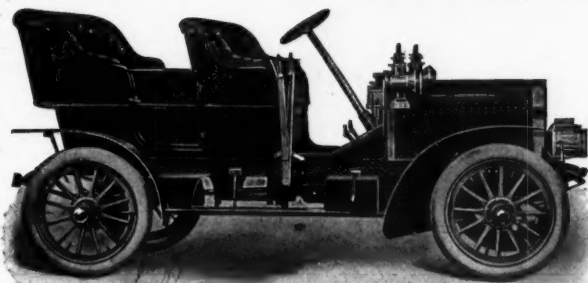
JOHN L. DOLSON & SONS, : : Charlotte, Michigan

Chicago Agency: R. C. ST. HENRY, 1608-1610 Michigan Ave.

CORBIN

CARS

The illustration shows the Corbin Model "D" which is today superior to any car at the same price and the peer of many much more costly cars. :: :: ::



Four cylinders, 16-20 h. p.
Air-cooled by Corbin System. Sliding gear transmission. Shaft drive. Pan construction under motor. Accessible, dependable, durable. :: :: :: ::

Model D—\$2,000

THE CORBIN MOTOR VEHICLE CORPORATION, New Britain, Conn.
NEW YORK AGENCY, 4 West 38th St. BOSTON AGENCY, 163 Columbus Ave.

HAYNES



A Car of Profit & Pleasure

In selecting a car it isn't the price that should be given first consideration—but what you get for what you pay should determine if you've made a profitable purchase.

It's also necessary to choose a car that's so good that you'll always have pleasure when using it.

Such a Car is the "Haynes"

you get what you pay to get—a car crowded with value and free from trouble—therefore if your purchase is a "HAYNES," you'll not only add to your pleasure, but profit materially by so doing. Our catalog tells you why—you should get it.

SYNOPSIS

- MODEL K.** 35-40 h. p., 4-cylinder, 106-in. wheel base, 34-in. wheels, 4½-inch tires, \$3,000. (Victoria or Folding Extension Top, \$200 extra.)
MODEL M. 16-18 h. p., 2-cylinder, double side-entrance tonneau, 81-in. wheel base, 32-in. wheels, 3½-in. tires, \$1,500.
MODEL L. 16-18 h. p., 2-cylinder, 2-passenger, with folding front seat, 81-in. wheel base, 32-in. wheels, 3½-in. tires, \$1,350.

THE HAYNES-Apperson CO., Kokomo, Ind.

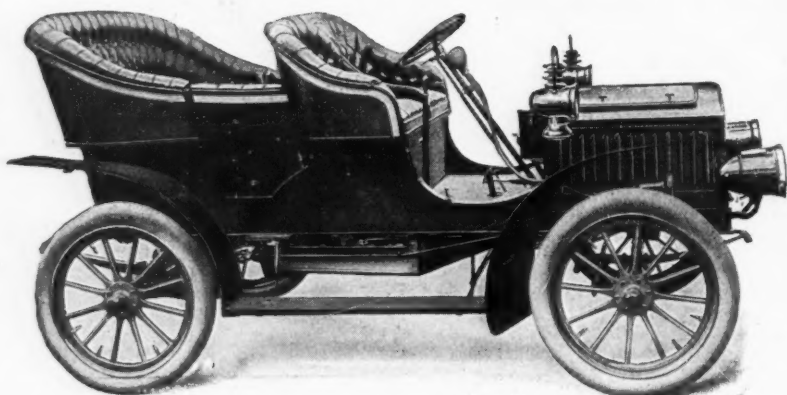
New York

Pioneer Builders of Gasoline Cars in America

Chicago

Member Association Licensed Automobile Manufacturers.

TWICE AS EFFECTIVE



In the calm and critical description of the Elmore PATHFINDER which was written by an expert and appeared recently in the Toledo Blade, this statement was made:

"The Elmore two-cycle gas engine is twice as effective as the four-cycle motor; because the

two-cycle works about half the total running time while the four-cycle works about a quarter of the running time."

If you do not know and had never heard anything more about the Elmore Pathfinder than this, would it not be sufficient to make you investigate the car without delay?

If you do investigate, this question of constant torque alone will win your unequalled admiration and enthusiasm.

Send for full line of literature, asking for group C, the booklet illustrating the 6,000-mile trip, our 1905 catalogue and the opinions of people who have used our cars, all sent free upon request.

THE ELMORE MANUFACTURING COMPANY
804 Amanda Street **MEMBERS A. L. A. M.** **CLYDE, OHIO**



REO Touring Car, 16 h. p.; 1500 lbs.; 5 passenger, 35 miles an hour; divided front seat; detachable side door tonneau, \$1250.

The REO Touring Car won the hill-climbing contest of the Automobile Club at Springfield, Mass., April 26th, with an average of 23 miles an hour on a 12% grade up Pecowsic Hill, over all cars of its class, beating some of the best cars in the country that cost three times the REO'S price.

The Car of Victory

Up Pecowsic Hill, at Springfield, Mass., on a 12 per cent grade, at a 26 mile clip, the REO Touring Car (shown above) taken from stock, beat out all cars of its class in the Automobile Club contest, April 26th; and won against several cars of a much more

pretentious type and three times the REO'S cost. The REO is not only right in design and construction, but built in the right quantity to insure the right price. Immediate delivery.

Touring Car

A full horse power for every 84 pounds of car. Unbreakable transmission. Direct drive speed from five to thirty-five miles per hour. Vibration proof radiator in removable sections. Carbureter automatic from 150 to 1500 revolutions. Leak-proof and dirt-proof valves. Perfect lubrication. Sensitive, accurate, certain control.

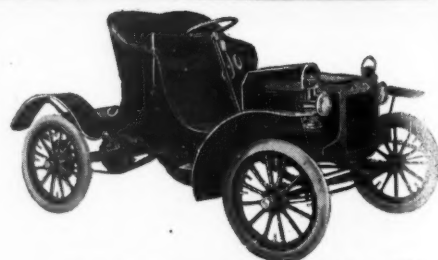
Runabout—8 h. p.; 900 pounds; 2 passenger; 25 miles per hour, \$650.

Come and let us show you the REO.

REO Motor Car Company,
R. M. Owen, Sales Manager, 138 West 38th Street, New York.

Factory: Lansing, Michigan.

Agencies throughout the United States.



The REO 2-passenger Runabout; 8 h. p.; 900 lbs.; speed 25 or more miles an hour; price \$650, f.o.b. factory.

"HOW FAST AM I TRAVELING?"



AUTO METER—EXTERIOR VIEW.

Built like a chronometer, and as indispensable as one. Magnetic force is its motive power, and as it works independently of weights, liquids or air, it is not subject to the law of centrifugal force. Absolutely even scale. No pivots nor joints to wear out and impair accuracy.

¶ The everlasting question in the motorist's mind is the one regarding "speed."

¶ Without accurate means of registering speed, no man can well approximate the rate at which he is traveling in an automobile.

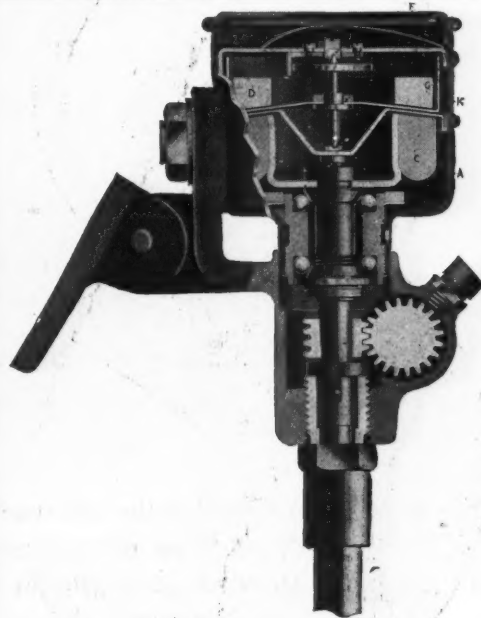
THE AUTO-METER

Answers the questions and does it so precisely that whether the speed is one mile or 100 miles per hour, the rate is plainly and steadily shown upon the indicator.

¶ Because of the proven positiveness of its principle of operation, it

CAN'T GO WRONG

¶ Send for Proof from thousands of users whose praise of the Warner Auto-Meter must convince you of its sterling value.



AUTO-METER—INTERIOR VIEW

Internal parts are gold plated. This is not done to please the eye—for the user never sees the inside—but to add to the durability. It is a contribution to cleanliness, and a preventive of corrosion.

NEW YORK
OFFICE:
39 Cortlandt
Street

WARNER INSTRUMENT CO.
55 Roosevelt Avenue
BELOIT, WISCONSIN

BOSTON
OFFICE:
143 Federal
Street

MICHELIN

IN 1904

Michelin Tires won every important race in

FRANCE
GERMANY
ENGLAND
ITALY
AMERICA

and all the cups and prizes were awarded for speed, endurance and reliability.

The best cars have the best tires

The best tires are on the best cars

If you have Michelin Tires on your car you have the best tire equipment.

Michelin Tires do not rim cut

Write for instruction book, free.

E. D. WINANS
General Manager

Telephone: 4657 Madison

MICHELIN TIRE AMERICAN AGENCY INC.
6 West 29th Street, New York

BRANCHES:

BOSTON, 751 Boylston St.

CHICAGO, 1461 Michigan Avenue.

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DIETZ

Lamps are made wherever possible with machinery—all alike and all good. The parts are always interchangeable. No hand work can equal the strength and symmetry of that done in our up-to-date factory devoted to the manufacture of *Modern American Goods* by *Modern American Methods*.

Notice the convenient and safe way in which we fasten the oil pot to the lamp. A turn of the hand and it is off—a turn of the hand and it is on, and when on, absolutely safe from falling off.

All live dealers sell them at reasonable prices.
Send for circular

R. E. Dietz Company

37 LAIGHT ST., NEW YORK

— ESTABLISHED 1840 —

SOLID SATISFACTION

in owning a

Premier Portable Garage



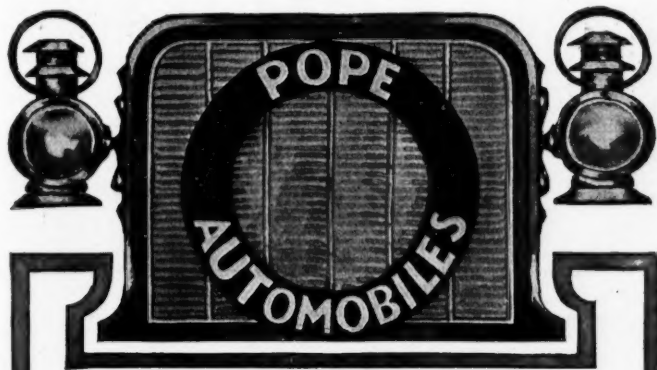
Unique and Attractive
in Outline.
Solid and Roomy.
Reasonable in Price.
Prompt Shipments.

(Ample in size to turn the largest touring car)

HOLLIS, PARK & POLLARD

17 CANAL STREET
BOSTON, MASS.

Also manufacturers of camps, cottages,
play houses and portable poultry houses



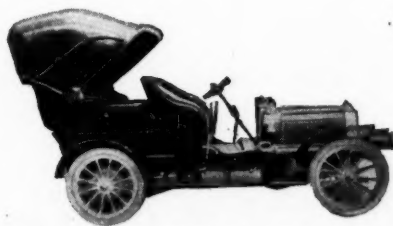
IN A GASOLINE CAR WHAT INTERESTS YOU

is not the listed horse-power, but the actual efficient power at the wheels.

If you pay \$2,800 or more for a touring car insist upon having one that will take all grades on the high gear.

The outside direct chain drive of the Pope-Toledo gives you the power where you want it—at the wheels.

It will carry five passengers comfortably at a speed of over a "mile-a-minute" or throttle down to five miles an hour.



TYPE IX.

45 H. P.	-	\$6,250
Without Top,	-	6,000

Other Models:

30 H. P., front entrance,	-	\$3,200
30 H. P., side entrance,	-	3,500
20 H. P., side entrance,	-	2,800

Complete Catalogue on request.

Be sure the name "POPE" is on your automobile.

POPE MOTOR CAR CO.,
TOLEDO, OHIO.

M. A. L. A. M.

THE INCOMPARABLE WHITE

THE CAR FOR SERVICE



Concerning White Value

(Continued from last week.)

Another feature of our shops making toward low cost of production is that we have a *manufacturing* plant in the true sense of the term; not merely an *assembling* plant. The parts of the White automobile which are not made from the raw material within our factory can be counted on the fingers. No argument is necessary to show that, under these conditions, our shop cost is singularly low. We have proceeded on the common sense plan of giving to the purchaser the benefit of this low shop-cost, with the result that the White is today the *one solution* to the problem which may perplex the prospective purchaser: "Where will I receive the most value for money expended?"

Another factor affecting the cost of the White is a continuity of design in the various models, a point to which reference has already been made. This means that the selling price of the White contains a minimum of allowance for new plans, new patterns, new jigs and the other inevitable concomitants entering into the radical redesigning of an automobile. This added cost in any automobile is particularly grievous when designs are revolutionized each year in accordance with reports as to what may be, for the time being, "a la mode" in other countries, where conditions are totally unlike those which obtain in this country. Furthermore, a change in a part in the White does not mean an endless trying out to determine how much material should be used to make the part of the desired strength. The most approved scientific methods of calculation and of testing make it possible for our designers to practically pre-determine the desired characteristics with a corresponding saving to us, as manufacturers, and consequently to you, as purchaser.

Write to us for literature.

WHITE Sewing Machine **COMPANY**
Cleveland, Ohio.

To those who have been worn out by the physical torture of using crow-bars, pick-axes and "surprising language" in the strenuous endeavor to manipulate other types of tires, the mechanically fastened tire method most strongly appeals. Trouble, labor and vexatious delays are reduced to a minimum.

Do not, however, allow the strong points of simplicity of operation to overshadow the questions of safety, riding comfort and economy.

Fisk Mechanically Fastened Tires

are the only auto tires made that embody the three essential tire qualifications

POSITIVE LOCKING DEVICE

Incorporating a life preserving principle which makes it impossible for the tire to fly off the rim whether it be inflated or not.

AIR ALL ABOVE RIM

Giving you the advantage of all the air where it is most needed as a cushion. Air is essential to comfort.

FIRST QUALITY AND CONSTRUCTION

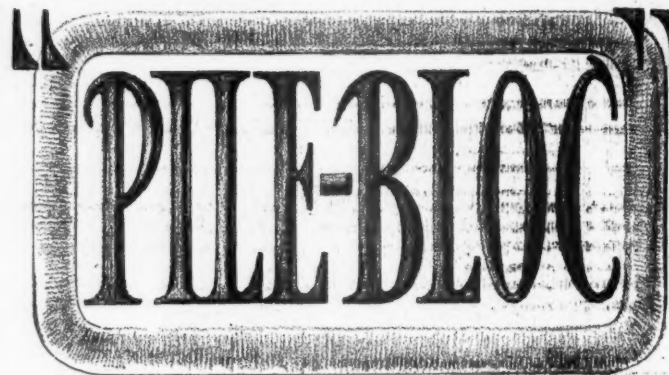
Built so that you can rely on them for hard service and so they will last.

You Can Have Them for the Asking.
See That They Are on Your Car.

The Fisk Rubber Co.
CHICOPEE FALLS, MASS.

BRANCHES:

Boston, 226 Columbus Ave.	St. Louis, 3908 Olive St.
Springfield, 40 Dwight St.	Omaha, 1116 Farnum St.
New York, 754-756 Seventh Ave.	Kansas City, 1830 Main St.
Philadelphia, 828 Arch St.	Minneapolis, 704 Hennepin Ave.
Atlanta, 103 N. Pryor St.	Denver, 1533 Glenarm St.
Syracuse, 423 So. Clinton St.	San Francisco, 114 Second St.
Buffalo, 893 Main St.	Los Angeles, 1084 So. Main St.
Cleveland, 318 Euclid Ave.	Montreal, Canada.
Detroit, 262 Jefferson Ave.	London, England.
Chicago, 1251 Michigan Ave.	



Special IGNITION Batteries

100 Amp. Hours
200 Amp. Hours
360 Amp. Hours
600 Amp. Hours

OUR RECORD

as Exclusive Purveyors:

800,000 Sets

in actual use by the
French, German and
English Governments

Our Record is Your Guarantee

Your dealer has them — if not, write us.

The "Pile-Bloc" Company

AMERICAN BRANCH

Telephone:
5206 Cortland

253 Broadway, N. Y. CITY

March 27, 1905.

Mr. Cadillac Dealer:

Here's a hot one. Down in Stark county, Ohio, we have a dealer who handles Cadillacs only—"because they always go and don't cost much to keep going," as he expresses it. Last year after our fire he was obliged to fill some of his Cadillac orders with other makes and let his customers fill others with some of the well known two cylinder propositions, and even at that he delivered fifteen Cadillacs. This year those who did not buy Cadillacs naturally thought if they could "only get a Cadillac with two cylinders" it *would* be satisfactory. It had never occurred to them that most of their troubles were due to the type of motor rather than bad workmanship, and a good deal of "two cylinder" talk was worked up. It began to worry Wilson, and this is the way he went after the "double cylinder bogie." He is now selling Cadillacs faster than we can ship them to him.

Again we say buyers don't *want* two cylinder horizontal engines. They may *think* they do but a trial will place them in the same boat with Stark county buyers. Here is what Mr. Wilson has to say about it:

The other dealers are all talking two and four cylinders and of course *I am talking all one*. However, I wish to say, I stole a march on my competitors the other day by inserting a "want advertisement" in our local paper reading like this:

WANTED—To buy a second-hand two or four cylinder any make. Must be in running condition. State lowest cash price.

(Signed) AUTOMOBILE, care Repository.

The results were instantaneous. I received a letter from every man who owns a two or four cylinder in Stark county offering his machine for sale at a big sacrifice. Now I am going to work with the bunch of letters I received and when a man opens his face to me against one cylinder construction I will produce the letters for evidence, and show him just what kind of a sucker he will be if he gets a two or four cylinder like the ones they have been selling here of late.

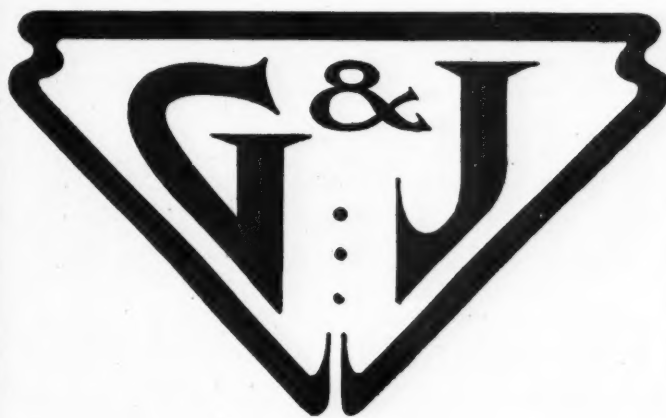
None of my patrons have their single cylinder Cadillacs for sale. They are all perfectly satisfied and are all plugging hard for me. I sold a model F Sunday as a result of my advertisement. I asked the party after I closed with him if he wanted to contract with me for fifty cents a week to keep his motor in perfect running order for one year as per my advertisement, and he said he guessed he would take his own chances, so believing I have got my people right where I want them because I know my competitors cannot put up such a proposition. I am spending a little money advertising but believe I have the right kind of stuff to do it with. I think good results must follow as I am making a thorough campaign. I am respectfully,

(Signed) A. H. WILSON.

Cadillac Automobile Company,

Member Association Licensed Automobile Manufacturers.

DETROIT, MICH.



Motor Car Tires

THE KIND THAT GIVE NO TROUBLE

HANCOCK & BIRRS

Attorneys at Law

H. P. HANCOCK, West Union, Iowa
ALEXANDER BIRRS, Fayette, Iowa

West Union, Iowa, April 28, 1905.

G & J Tire Co.

Indianapolis, Ind.

Gentlemen:—

Last summer I purchased a car equipped with your new thread fabric tires, and while I have run the car hundreds of miles, as yet I have never even had a tire off, nor even had to inflate a tire, except to inflate this spring after deflating for winter storage. They now seem to be as good as new. The corrugations are as distinct as when bought. I expect they will run me this season and another. They are the best tires I have ever had.

Yours truly,

H. P. HANCOCK.

And the EASIEST Tires to Handle

NO CLAMPS USED WITH G & J TIRES

Get our Thread Fabric Book

G & J TIRE CO.
Indianapolis

CHICAGO
429 Wabash Avenue
DETROIT
247 Jefferson Avenue

DENVER
1528 Court Place
BUFFALO
9 West Huron St.

BOSTON
43 Columbus Avenue
CLEVELAND
337 Huron Street

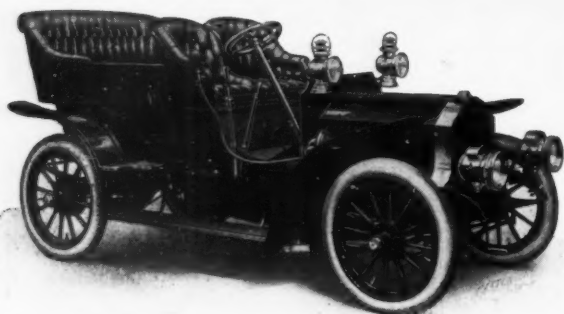


Rims branded in the channel with these copyrighted marks have been inspected and pronounced perfect. We guarantee our tires on all rims so branded.



Cleveland

THE CAR OF SIMPLICITY



NO EXPERIMENTING

is necessary with Cleveland Cars. They are thoroughly tested before they leave the factory. We have done all the experimenting ourselves, so that now Cleveland Car owners are reaping the benefit of our research and tests.

¶ The complete chassis of the Cleveland Car is made by the Federal Manufacturing Company, one of the oldest and largest concerns in the business. Their yearly guarantee means something. These facts are sufficient guarantee of the reliability of Cleveland Cars, as any well informed automobilist can testify.

¶ We therefore say to the prospective buyer of an automobile—

"Bring an Expert with You"

¶ Immediate delivery—18-20 h. p., \$2800.

¶ Send for new catalog, just issued, giving full details.

Cleveland Motor Car Company,

384 Erie Street,

CLEVELAND, OHIO

E. B. GALLAHER, General

Eastern Distributing Agent,

141 West 55th Street,

New York.



MOTORS

WE CLAIM

FOR BRENNAN

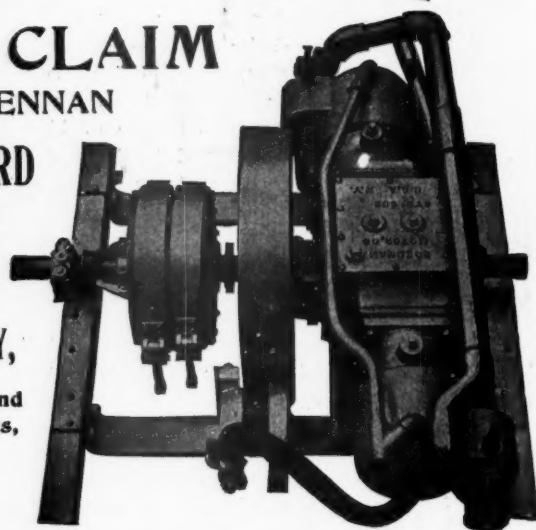
STANDARD

MOTORS

ABSOLUTE

SIMPLICITY,

substantial and
large bearings,
ease of
adjustment
and



UNUSUAL ACCESSIBILITY FOR INSPECTION

BUILT IN

6, 8, 12, 14,

16 and 20 h. p.

EXTRACT FROM LETTER APRIL 27, 1905.

The 8 h. p. motor I purchased of you is giving the best of satisfaction.

Fort Collins, Colo.

F. D. GIDDINGS.

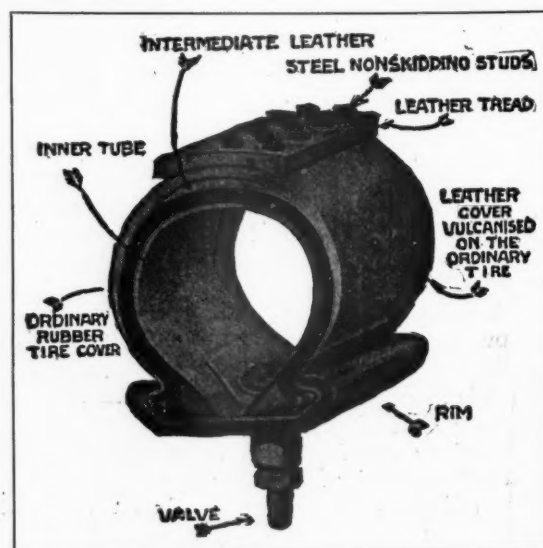
No Motor Can Do More Than Satisfy

BRENNAN MOTOR COMPANY

SYRACUSE, NEW YORK

SAMSON LEATHER TIRE

NON-SKIDDING :: :: PUNCTURE PROOF



A. E. GALLIEN, Manager

UNITED STATES BRANCHES:

New York: 12 West 33d Street

Boston: 20 Park Square

Chicago: 1461 Michigan Boulevard

Philadelphia: 1120 Chestnut Street

THE

Locomobile

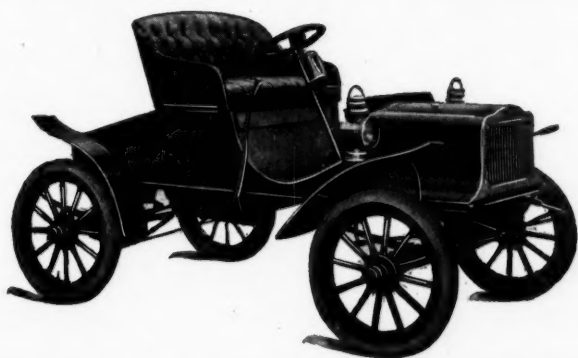
**IS A TRUE SIMPLEX**

Write for catalogue and full information.

The Locomobile Company of America, Bridgeport, Conn.



The \$500 Gale



WE wish to state that because this car is sold at so low a figure, is no sign that it is cheap. Every part is the best that we can make or buy, and we will replace any defective parts free of charge at any time inside of one year after purchase.

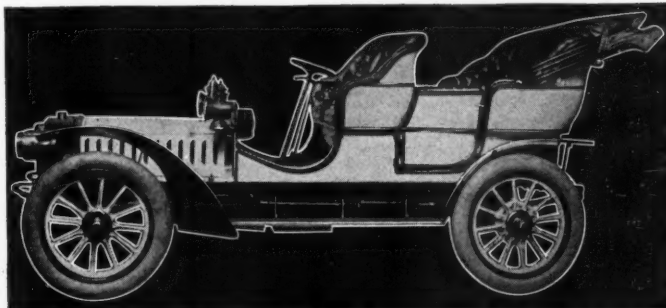
Eight H. P., horizontal single cylinder 5"x8"; weight, 1,100 lbs.; 72" wheel base; 28"x3" tires. New-type transmission; two speeds, forward and reverse; absolutely oil tight; cone clutch on high speed; new-type bands on low and back up; no gears running on high speed. Pump direct connected to engine. Gasoline and water tanks hold five gallons each. Kingston carburetor, Dow vibrator coil, Brown & Lipe differential, diamond chain. Speed, 30 miles per hour. Frame, angle iron. Body can be tipped up by loosening two nuts in floor of car and removing cotter pin. Car can be run without body, as all wires, connections, etc., are on the chassis.

Chicago Agents: MEAD MOTOR CO.,
1243-45 Wabash Ave.

THE WESTERN TOOL WORKS, Galesburg Ill.

AUSTIN

A LUXURIOUS CAR



THAT LOOKS THE PART

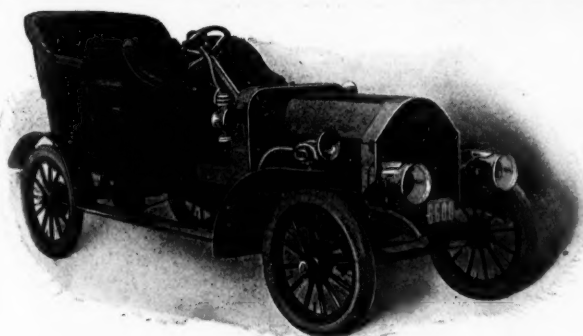
Four-cylinder, 5 1-2 in. bore, 5 in. stroke,
50 h. p., weight 2,500 lbs., price \$3,500.

Full Extension Top, \$150.00 extra. 108 inch wheel base, 36 inch wheels, 4 1-2 inch tires, 44 1-2 inch rear seat. Bevel gear drive, direct on high speed. Our new sliding gear transmission has four forward speeds. Write for complete description.

AUSTIN AUTOMOBILE CO.
GRAND RAPIDS, MICH.

"The Simple Car"

GAS-AU-LEC

**"MARKS A NEW ERA IN
AUTOMOBILE CONSTRUCTION"**

HAMILTON S. CORWIN
President

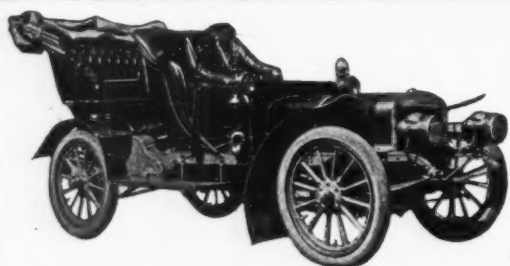
THE SENSATION OF THE BOSTON SHOW A 40-45 H. P. 4-cylinder, 4-cycle engine, five-passenger, side entrance, Gasolene Touring Car of the Highest Grade
WITHOUT Starting Crank, Change Speed Gears, Clutch, Cams, Rocker Shafts, Tappets, Valve Gearing or complications.

Every movement of the motive power and the car, from a state of absolute rest, forward at any speed or reverse is controlled by one lever, operated either by hand or foot as preferred. Positively no other speed or movement controlling device of any kind on the car. Triple brakes—irreversible steering gear.

**THE GAS-AU-LEC IS THE SIMPLEST
GASOLENE CAR IN THE WORLD**

both as to construction and control, and the easiest to operate and maintain.

**NOT AN EXPERIMENT, BUT A SUCCESS.
NOT A FREAK, BUT A PRACTICAL REVOLUTION****Vaughn Machine Company****PEABODY, MASS.
U. S. A.**



ACME

CONSTRUCTION
IS CORRECT
RIGHT DOWN
TO THE
"BACKBONE"

Acme Motor Cars

show by PRACTICAL ROAD TEST the cardinal points of correct engineering principles and practice throughout; Simplicity of Operation; Greatest Power in Proportion to Weight; Highest Degree of Workmanship; Elegance of Appointment and Design.

ACME MOTOR CAR COMPANY, READING, PA.

Demonstration in TEN CITIES

Boston Motor Co.
43 Columbus Avenue
Boston, Mass.
Mass. Distributors

Acme Motor Car Co., of N.Y.
941 8th Avenue
New York, N. Y.
N. Y. and N. J. Distributors
Southern Automobile Co., Atlanta, Ga.

Devlin & Co.
1407 Michigan Ave.
Chicago, Ill.
Western Distributors
Ensign & Moore, Binghamton, N. Y.

Liberty Automobile Co.
138-140 Beatty Street
Pittsburgh, Pa.

Acme Motor Car Co.
1335 Arch Street
Philadelphia, Pa.

J. W. Mears
9 Ocean Parkway
Brooklyn, N. Y.

T. C. Bradford, Wilmington, Del.

"The Eagle"

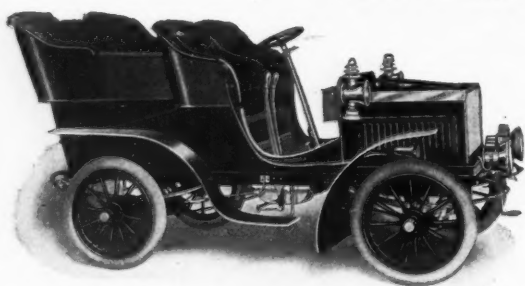
TWO MODELS

Model A.

12 Horsepower
Double opposed engine
Price, \$950

Model B.

4-Cylinder, air-cooled
24 Horsepower
Long wheel base
Price, \$2250



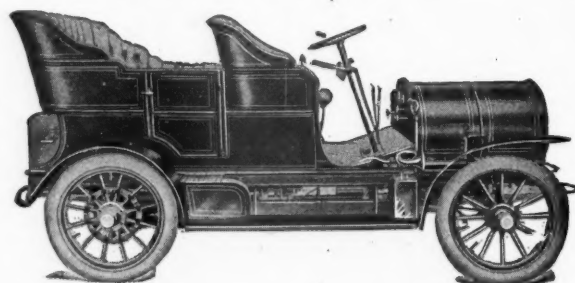
Big Discount

Agents Wanted

Immediate Deliveries

The Eagle Auto Co.

479-483 Pearl Street,
BUFFALO, NEW YORK



The flight of Pecowsic Hill, Springfield, made in 34 2-5 seconds, by Grout Steam Car, defeating all American and Foreign cars of all powers and prices. This speaks for itself.

GROUT

Cars Are Winners Everywhere

Built for speed, hill climbing and touring.
If you see it in the lead, it's a GROUT.

Grout Bros. Auto Co.

ORANGE, MASS.

151-153 Columbus Ave., BOSTON

EASTERN AUTO COMPANY
306 West 52nd St., NEW YORK

M. M. WOOD
308 Dearborn St., CHICAGO, ILL.

Have you seen the new KOKOMO Mechanically - Attached

AUTOMOBILE TIRE ?

*It is just what you
Have been looking for*



Quickly attached and detached.
Creeping and Rim Cutting entirely avoided.
Made of the very best material and workmanship throughout.
Write us for full particulars.

Kokomo Rubber Co., Kokomo, Ind.



DON'T ECONOMIZE
ON TIRES



ontinental Tires

ARE CHEAPEST IN
THE LONG RUN

Our 1905 booklet contains
much valuable information
to auto owners; sent free
upon request. : : : :

Address Department M. A.
**THE CONTINENTAL
CAOUTCHOUC CO.**
EMIL GROSSMAN, General Manager
Factory: Hanover, Germany 298 BROADWAY, NEW YORK

SAMSON NON-SKID ATTACHMENT ON CONTINENTAL TIRES NOW IN STOCK. :: :: :: SEND FOR PRICES.

Largest Automobile Supply House in America

CLEVELAND BRANCH, 406 Erie Street

Mr. Dealer: Patronize the Jobber who
protects your interest.

Gate City Motor Car Co.
AUTOMOBILES AND SUPPLIES
815 Main Street

KEOKUK, IOWA, April 28, 1905.

Mr. Chas. E. Miller,
New York City, N. Y.

Dear Sir:

Your catalog No. 7 of auto supplies is just received
and we should like to have your best trade discounts
applying to same.

Yours is the first supply catalog received here this
season so far as we know whose publishers have made
any effort to protect the dealer. All the others have
given our customers the same discounts offered us. We
naturally appreciate the difference. Yours truly,

GATE CITY MOTOR CAR CO.
Per L. H. A., Manager.

*This catalog is held as a book of reference by automobilists and will,
be mailed on request.*

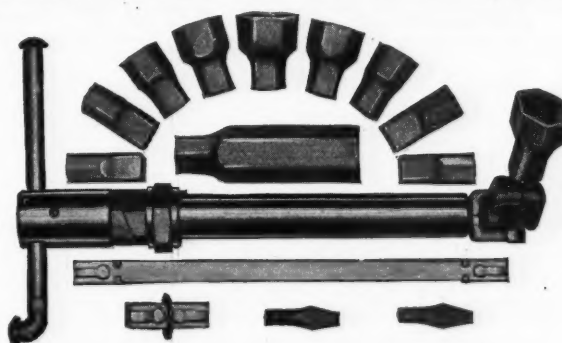
Charles E. Miller

Manufacturer, Jobber,
Exporter and Importer

Home Office
97-99-101 Reade St., New York City

Branches
Broadway and 38th St., New York 318-320 N. Broad St., Philadelphia
202-204 Columbus Ave., Boston, Mass. 406 Erie Street, Cleveland, Ohio

THE AUTO CLE



The Auto Cle Wrench comprises all the above parts.
These sockets fit any nut or bolt on any machine.

The swivel joint works at an angle enabling the easy
reaching of the most inaccessible part of the machine.

The Auto Cle has a ratchet movement in either
direction, right or left hand.

Saves its cost in a short time.

Send for Circular.

Sole manufacturers for the United States.

Railway Appliances Company

1175 Old Colony Building

CHICAGO

BEAVER * MOTORS



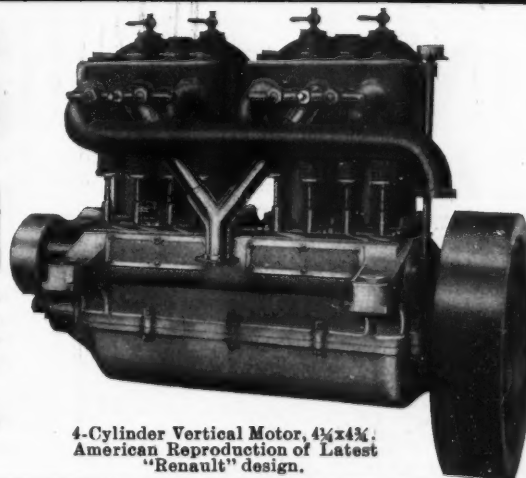
Horizontal Opposed Cylinder Engine, 4"x4.
same Engine 5x4½.

Design, Workmanship, Material
and Performance Fully Guaranteed

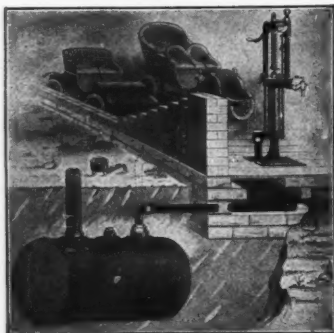
We are equipped to furnish these engines
on a manufacturer's—not a builder's—basis.
This guarantees low cost, interchange-
ability of parts and uniform performance.

BEAVER MFG. CO.

MILWAUKEE, WIS.



4-Cylinder Vertical Motor, 4"x4½.
American Reproduction of Latest
"Renault" design.



The Bowser Long Distance Gasolene Storage System—Tank Buried—Pump in Building.

Established
1885

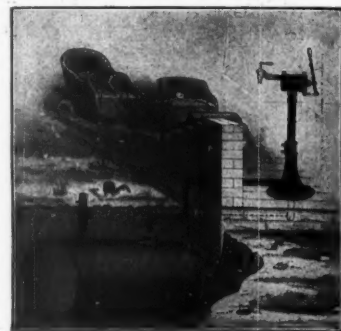
BOWSER GASOLENE TANKS

Over 200,000
in use

We manufacture Gasolene Storage Outfits—all kinds. Self-measuring Outfits for Garages; smaller, less expensive ones for private automobilists. If you use any quantity of gasolene—no matter how small—you will find in our catalog a tank exactly suited to your purpose. We shall be glad to mail you our catalog. It was prepared for YOU. Your request carries with it no obligation. It simply indicates your willingness to investigate the most complete line of tanks ever offered gasolene users. Ask for Catalogue XV.

S. F. BOWSER & CO., Inc.
FORT WAYNE, IND.

Eastern Office, 255 Atlantic Ave., Boston, Mass.



Bowser "Little Giant" Gasolene Outfit

THE SPEEDOMETER

THE accuracy of the JONES SPEEDOMETER is attained by the mechanically perfect application of an absolutely unchangeable law. Its standard of perfection will never be equaled by devices based on theories, the practical application of which, is so impossible that they were discarded in the development of the Jones Speedometer.

Write for the Speedometer Bulletin. Sent free.

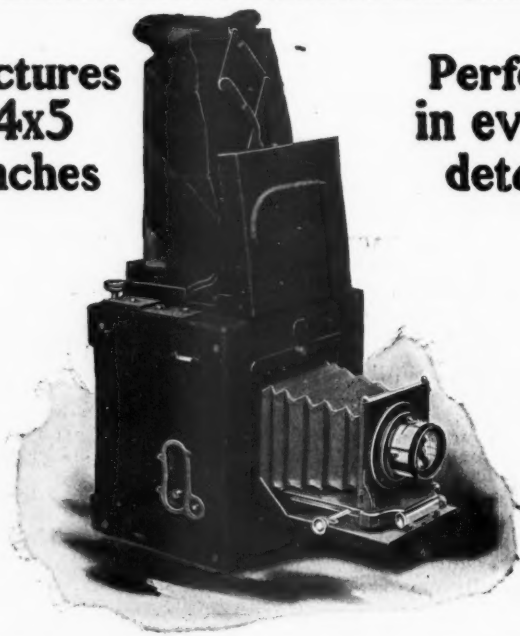
JONES SPEEDOMETER,
121 West 32d St., New York



TRADE
Speedometer
MARK

Pictures
4x5
inches

Perfect
in every
detail



PREMO REFLECTING CAMERA

FOR RAPID PHOTOGRAPHY

Shows object full picture size and right side up while making exposure.
Half the size of other cameras for rapid photography.

FOCAL PLANE SHUTTER—Speed limit, 1/2500 second. Glass
Plates or Daylight Loading Premo Film Pack.

Price, \$85.00 (without lens)

20 OTHER STYLES OF PREMOs.

Send for 1905 Catalogue.

Rochester Optical Co., Rochester, N. Y.

New Gasoline Delivery Wagons

Two Sizes, 1,000 lb. and 2,000 lb. Capacity

Write for particulars

Passenger Omnibuses, Delivery Wagons,
Passenger Brakes, Delivery Trucks,
Trackless Trolley Cars

Manufactured by

THE AUTO-CAR EQUIPMENT COMPANY

1417 Niagara Street

BUFFALO, N. Y.



1,000 lb. Gasoline



Electric Passenger Brake



ST. JOHN
NON - PUNCTURE
TIRE

Safe, Speedy and
Reliable

THE HAPPY MEDIUM

THE ST. JOHN SOLID RUBBER CUSHIONED TIRE

The greatest tire man's ingenuity ever produced.

The tire that solves the most vexing problem now presented to both the manufacturer and private owner of automobiles.

It cannot PUNCTURE. Perfectly RESILIENT, and saves one-third the power now expended on other tires. Fits regular Single and Clincher rims. Easily applied.

Adopt our tire and save annoyance and expense.

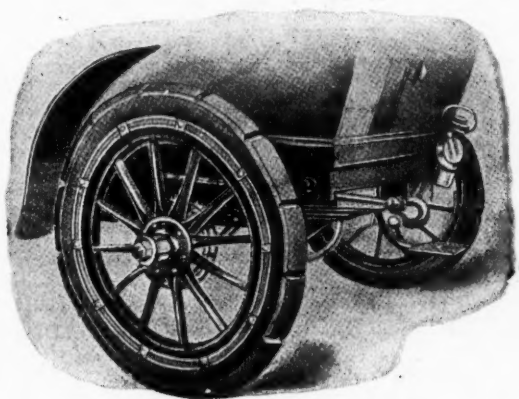
Write for our 1905 Catalogue, with testimonials, etc.

The ST. JOHN RUBBER TIRE CO., Inc. 116 Broad St., New York

...THE...

"I-C" Leather Tire Tread

WON'T SLIP ... WON'T SKID



NON-HEATING

PUNCTURE-PROOF

Your Tire Never Wears Out if
Covered with the I-C TREAD

Simplest, Most Practical and Durable Tread Made

Write for Catalog and Prices

Ireson Leather and Export Company
148 High Street BOSTON, MASS.

SOLAR MOTOR LAMPS



"SHOW THE WAY"

If you don't drive at night you don't need a lamp of any kind, but if you do, there is no more important part of your car than the lamp. Reliability and an intense light characterize the SOLAR, and are due to proper construction of lamps and correct principal of generator.

EXPERIENCED DRIVERS DEMAND SOLARS

Why not furnish them? They cost but little more than "good enough" lamps and give absolute satisfaction.

ILLUSTRATED CATALOGUE FOR THE ASKING.

BADGER BRASS MFG. CO.

KENOSHA, WISCONSIN
New York Office, 11 Warren St.

The "Lea" a Perfect Tire Pump



WE WANT LIVE AGENTS.

Good territory and exclusive rights
to proper parties. Write now.

Built on established engineering lines...Gives higher pressure in less time with one-tenth the effort required by other pumps....Is always ready....Fitted with pressure gauge insuring even inflation.

Write for booklet and agency proposition to

WILLIAM S. JONES

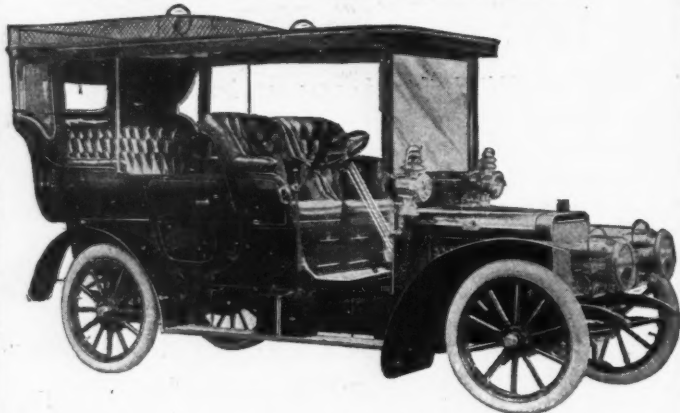
Sole Selling Agent

For Motor Car Specialty Co. of Trenton

114 North Broad Street
PHILADELPHIA

THE DARRACQ

Represents the Most Advanced
Features in Foreign Improvement



Equipped with the Latest Magneto and Jump Spark
Ignition :: Perfect Automatic Throttle
Control :: Positively Noiseless

LET US PROVE THIS TO YOU

ALL PARTS KEPT IN STOCK

THE F. A. LA ROCHE CO.

652 to 664 Hudson Street, :: :: NEW YORK
Up Town Store, 147 W. 38th Street, NEW YORK

ALL THE YEAR ROUND

KNOX WATERLESS CARS

are Air-Cooled by the patented Knox Pin system, and are always Reliable, Economical and Powerful.

They go anywhere at any season. Latest improvements and new models shown in our complete catalog of Passenger and Commercial Cars.

KNOX AUTOMOBILE CO.

Agents in all principal cities. Springfield, Mass.
Member Association Licensed Automobile Manufacturers.

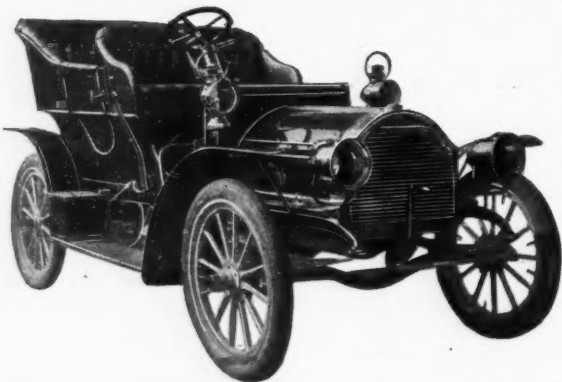
Each machine delivered is one more perfect link to our endless "Chain of Success."

A STODDARD-DAYTON in a territory always brings more orders: "Our best salesman."

The fact of continued excellent performance is a direct result of good mechanical principles—best material—and perfect construction.

Certainly worthy of investigation.

STODDARD-DAYTON



the car of Supreme worth and as "Good as it Looks."

\$2,000. F. O. B. Factory

DAYTON MOTOR CAR CO.

McDUFFEE AUTO CO., 1449 Michigan Ave., Chicago.
MAXWELL BRISCOE, INC., 317-319 W. 59th St., New York.
RANDLIFF MOTOR CAR CO., 24-26 Columbus Ave., Boston.
J. G. MILLER'S SONS, 115 E. Seventh St., Cincinnati, O.

Member American Motor Car Manufacturers' Association, Chicago.

THE MARMON

"A Mechanical Masterpiece"



SEE THAT ROCK?

It's over a foot high. Notice the wheel resting on it, axle aslant, springs not compressed, yet the body from side to side is LEVEL. This wonderful flexibility provides a luxury of motion that is absolutely unrivaled—even over the roughest roads. This and other advantages are due to our exclusive, PATENTED

DOUBLE THREE-POINT SUSPENSION

Cast aluminum body on one frame, simple accessible oil-tight mechanism on another frame, EACH suspended on three PIVOTAL points. Eliminates the binding and twisting strains INEVITABLE in the customary rigid four point suspension; hence, means fewer parts, greater efficiency and less wear on tires and all working parts. Rigid shaft drive, without Cardan joints; quiet, unique air-cooled motor; positive automatic force lubrication that absolutely marks the end of oil troubles. Booklet No. 1 describes it.

NORDYKE & MARMON CO.

Established 1851.

INDIANAPOLIS, IND.

Member American Motor Car Manufacturers' Association, Chicago.

DURQ

Guarantee Means Something

Noah Webster must have had **DURQ** in mind when he defined the word "guarantee." Here it is: **GUARANTEE** [gar-an-te]

In law and common usage, etc. *** to assure *** a thing that may be depended on. ***

Only *we* go further than Noah and **WAR-RANT DURQ** batteries to give the *same* output *one year from now* as they give *today*. And **DURQ**'s output today is *guaranteed*. Why don't you write?



CHICAGO BATTERY CO.
1400 Michigan Avenue
CHICAGO

\$35.00

The

\$35.00



has already been placed on over One Thousand cars since Oct. 1, 1904. There will be over Ten Thousand so equipped before same date in 1905.

To Dealers we say—**DON'T DELAY!** but reap the profit on the large business to be done when you are selling and delivering your new cars.

To Drivers we say—**DON'T DELAY!** but thoroughly enjoy night driving by doing away with all the annoyances and disappointments of Acetylene Generators.

PREST-O-LITE gas tanks will supply gas for any type gas lamp. Tube from tank to lamp is the only attachment necessary.

Get a catalog from

THE CONCENTRATED ACETYLENE CO.
Indianapolis, Ind.

Standard Parts For Automobile Construction

We have developed and are constantly adding to our line of standard parts, and our excellent equipment also puts us in position to furnish any special parts for any size cars.

Our **Pressed Steel Frames** are made of high carbon cold rolled steel, made for us from our formulas, and hot rivets are used in putting together the bars of the frames.

Among the many parts made in our plant your attention is called especially to our **Rear and Front Axles, Transmission Gears, Steering Columns, Wheels, Hubs, Hub Caps and Steering Wheel Rims.**

If you have anything special in the line of steel stampings or forgings we can make them for you.

Circulars describing our parts sent on application.

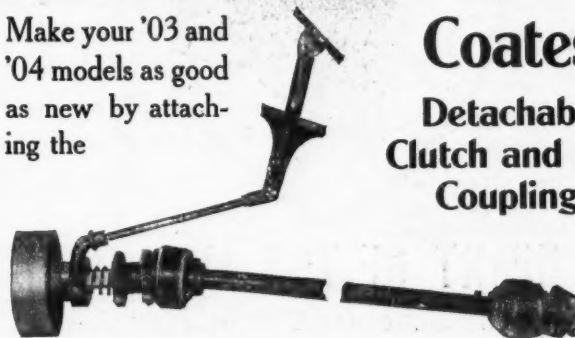
A. O. SMITH COMPANY
MILWAUKEE

Selling Agent: **HAYDEN EAMES, Cleveland, Ohio**

Have You a "White"?

Make your '03 and '04 models as good as new by attaching the

**Coates
Detachable
Clutch and Ball
Couplings**



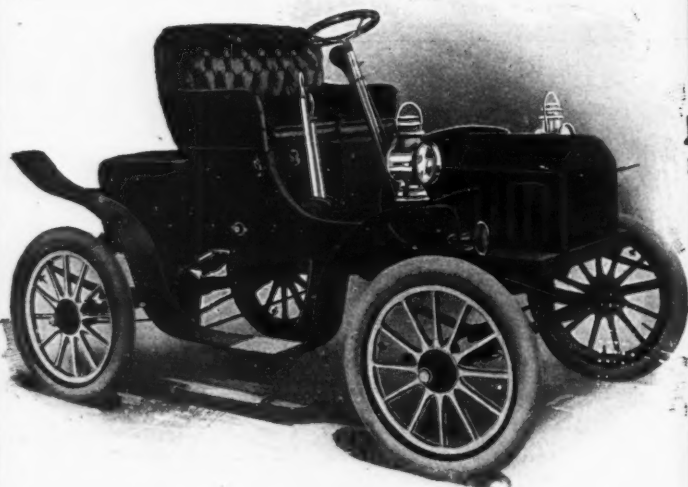
We furnish everything that you see in the cut. Tune up your engine without running your car out of the garage. Stop your car in the middle of a hill and pump up your water. Throw out your clutch when you leave the car and your mind will be at rest. Think of it, a pair of Coates Couplings and a Detachable Clutch complete.

Send for our Price, Quick

Send us your couplings, brake band and shaft and we will return in 48 hours.

COATES CLIPPER MFG. CO. WORCESTER MASS.

The SANDUSKY AUTOMOBILE CO.Courier



STYLE F. \$650.

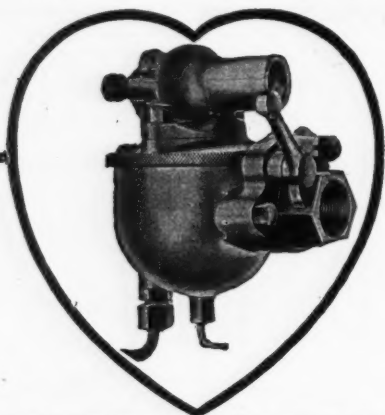
We can make immediate deliveries on the above model. We are turning out a new Light Tonneau Runabout for \$800, on which we can make deliveries after April 15. Write for catalogue.

The Sandusky Automobile Co.

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SANDUSKY, OHIO, U. S. A.

Member Association Licensed Automobile Manufacturers.



THE HEART OF THE AUTOMOBILE The Schebler Carburetor

This is the model No. 1 racing Schebler, which was attached to the automobile that broke all world's records for light and middle weight cars and defeated the big 90 h. p. foreign cars, at the Empire City track, Nov. 8th.

If you want to get full power and speed of your engine, besides having a carburetor that gives a perfect mixture at all engine speeds and is not affected by weather conditions, buy the **SCHLEBLER**. It is high priced but it does the work.

Special connection for attaching the Schebler to Oldsmobiles, any model.
Special size carburetor for the Ford two and four-cylinder cars.

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AUTOMOBILE
INDUSTRY

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None Genuine Without
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Acetylene Burners

SOME ADVANTAGES

They are Recognized Standard Burners the World Over

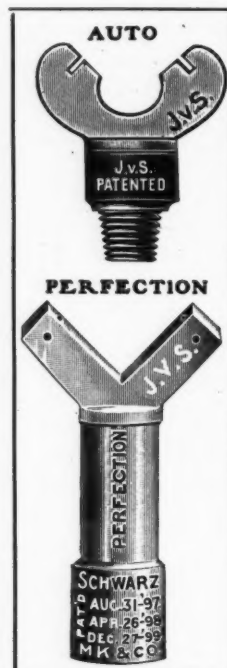
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Licensed under Patent 589342, August 31, 1897. This patent has been adjudicated by the U. S. Court of Appeal and IS VALID.

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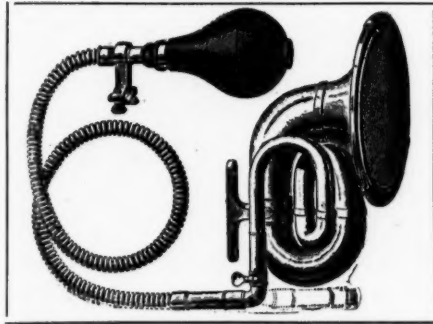
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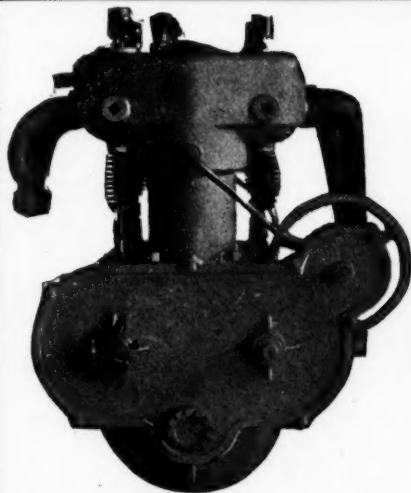
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Dept. M. A.

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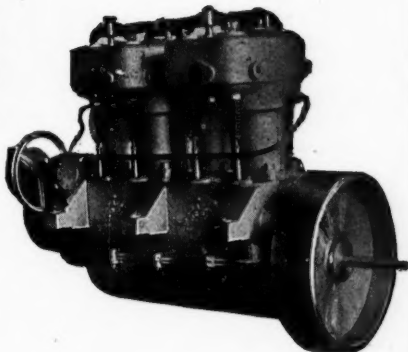


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CARBURETER
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Here's Proof

From the
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Commercial Motor Vehicle
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... After expending about \$150 for various makes of carbureters and finding them all defective because of lack of range in throttling the engine, we were much pleased upon installing your Acorn carbureter.

We find this carbureter feeding the engine evenly and properly from the lowest to the highest speeds and WE DO NOT HESITATE TO RECOMMEND IT AS THE BEST CARBURETER WE HAVE TRIED.

IT FED OUR ENGINE PROPERLY IN ALL OUR RECENT TESTS, HAULING AS HIGH AS 27,000 LBS. GROSS WEIGHT ON OUR TRUCK, NEVER MISSING EXPLOSION A SINGLE TIME. ... ETC. FOUR WHEEL DRIVE WAGON CO., H. Theo Hansen, V. Pres. and Mgr.

It's not what we claim, so much as what actual users say of

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that proves their Sterling Reliability. A trial will convince anybody. Write

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STOP THAT NOISE!

NEW PROCESS PINIONS

Will stop the racket made by your Time Gears, Pump Drive Gears or Igniter Gears, and will outwear all other kinds of Noiseless Pinions.

LET US HEAR FROM YOU.

THE NEW PROCESS RAW HIDE CO.
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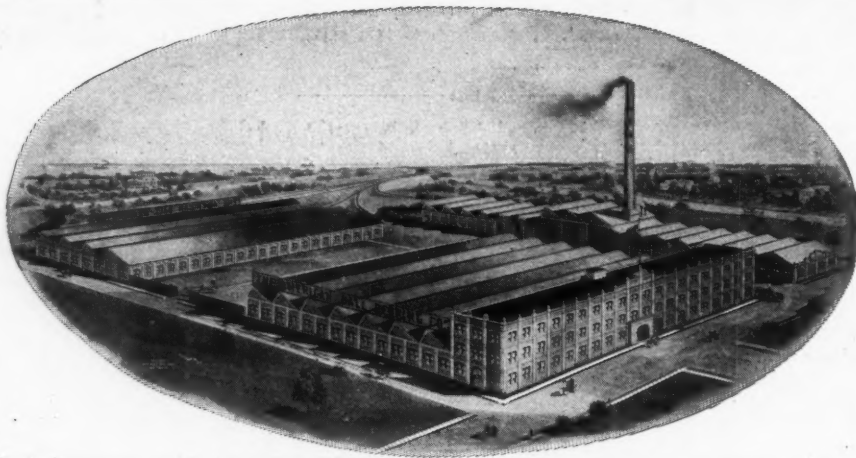
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1905 equipment consists of
Adjustable Cushion Fork
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There is only one INDIAN
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The output of COMPLETE FRONT and REAR AUTOMOBILE AXLES of this plant exceeds the capacity of all competition combined.

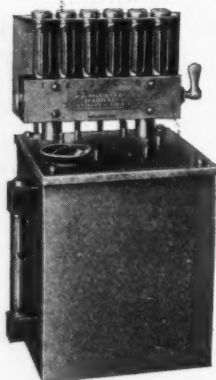
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THE HILL PRECISION OILER

INSURES PERFECT LUBRICATION

Your Money Back if it
Does Not do the Work



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EFFICIENCY AND DURABILITY
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Diamond Chains

ARE STRONGER
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Insist upon having your new cars equipped with them.

Replace your worn out and noisy chain with a "DIAMOND."

WE MAKE
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to fit sprockets of any standard

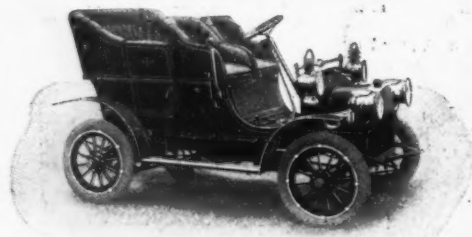
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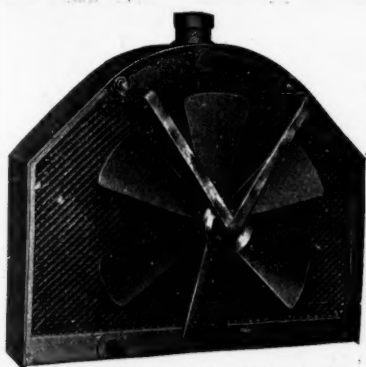
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Write for Catalogue answering
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To have an Automobile the salient feature of which is *simplicity*?
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Tested and Adopted by
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FOR 1903-1904-1905

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Packard Enameled Ignition Cables



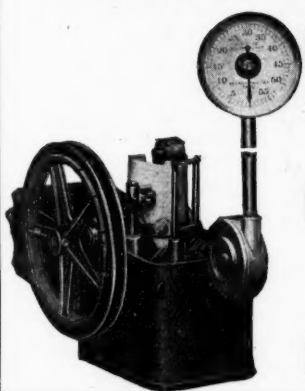
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REMARKABLE TROUBLE-SAVERS

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which registers on dial, also speed, stops and mileage on tape, as well as mileage on odometer.

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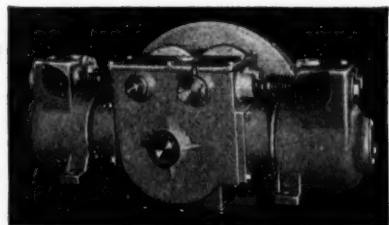
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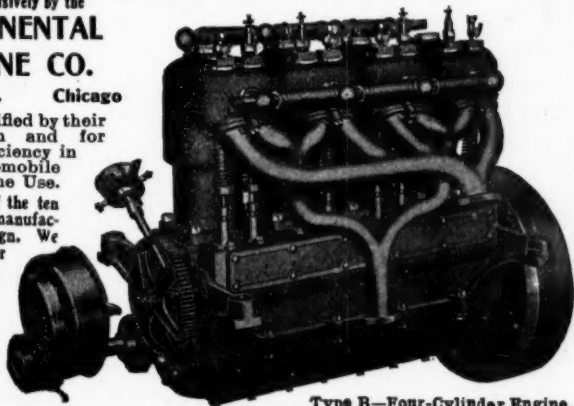
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Are identified by their Perfection and for their Efficiency in both Automobile and Marine Use.

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Cyclometers, Odometers, Tachometers, Counters and Fine Castings.



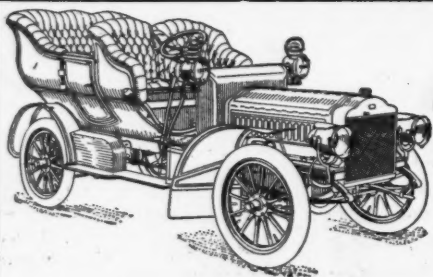
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Applicable to any car. As reliable as a bank vault lock. As long as you have the key your car is safe.

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**40 HORSE
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16 Horse Power.
Beautiful Finish.
Easy Riding.
Reliable.

Keeps cool
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"Seeing is believing."
A trial proves it.
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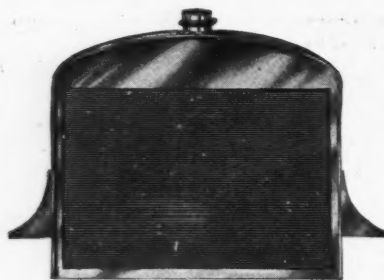
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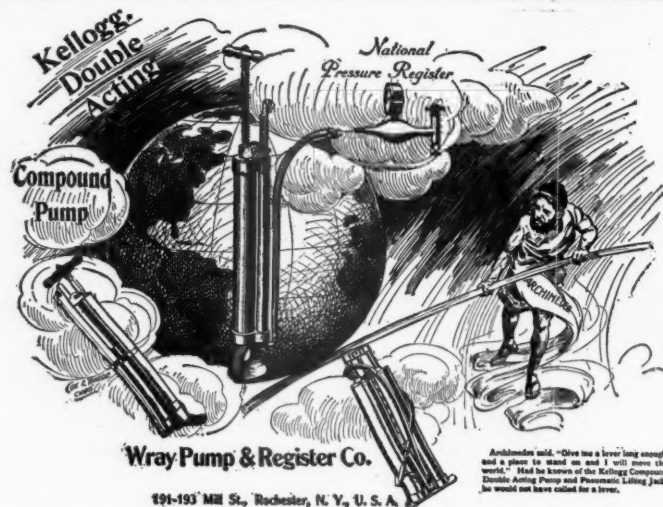
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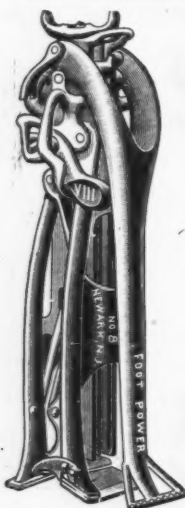
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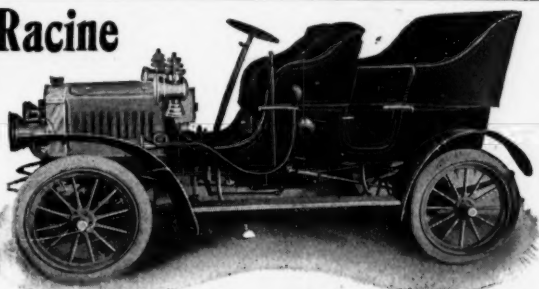
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PIERCE-RACINE Cars are good cars. Guaranteed for one year. They are fast and great hill climbers. Let us send you our printed matter which tells all about them. They are the best for the price.

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The strength of our Tops is in the frame work. The material throughout is of the very best.

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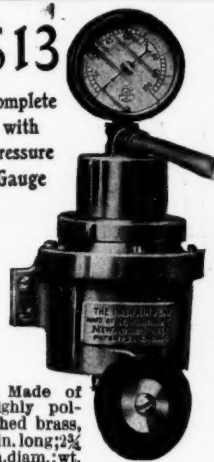
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Locks or releases at will by normal movement of operator's foot. Operates entirely free of ratchet when so desired. Style A \$2.50



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Fit any car. Explosions cannot damage muffler. Illustrated circulars describe each article. Write



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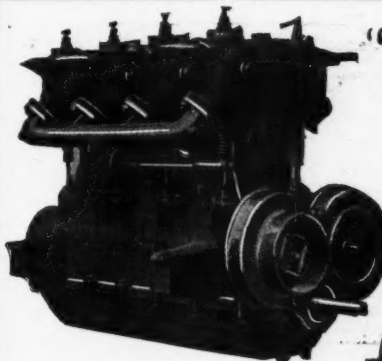
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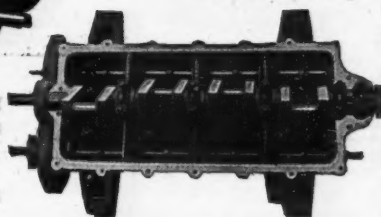
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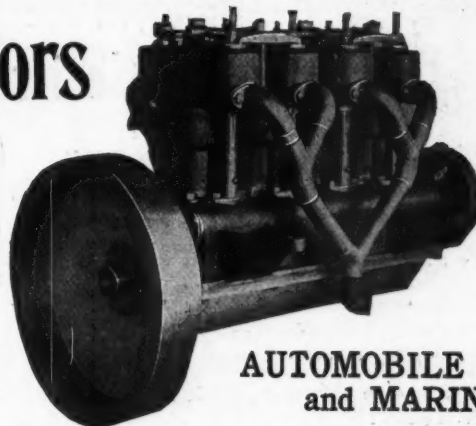
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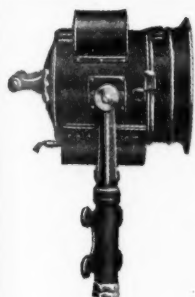
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H. P.
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The Powerful Searchlight For Motor Car or Boat

If your car is equipped with it others slow down to let you pass.

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THE "ECONOMY" AUTOMOBILE SWITCH

It pays for itself on the first installation

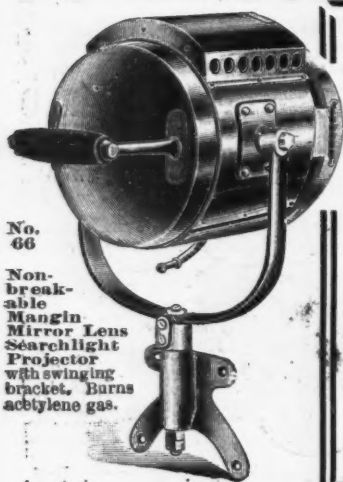
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The Neverout

Mirror Lens Searchlight

is easily the best and most powerful searchlight, and when it comes to generators our new

safety gas producer

is in a class by itself.

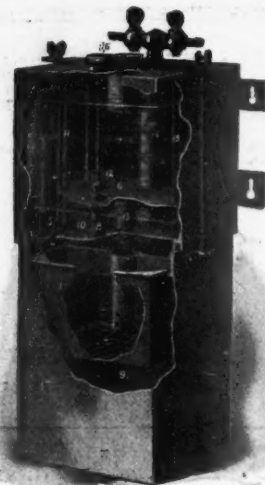
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MOLINE AUTOMOBILE COMPANY,
EAST MOLINE, ILL.

Members American Motor Car Manufacturers' Association of Chicago.

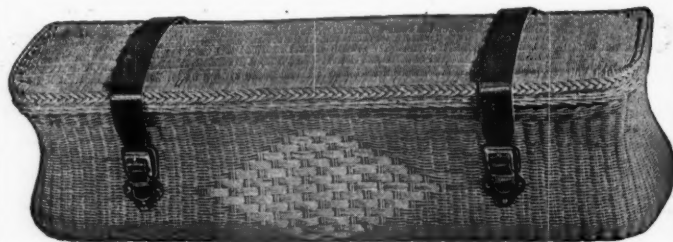
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Made DETACHABLE or RIVETED
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HARRIS OILS MAKE SPEEDY RUNNING

They afford the necessary lubrication, leave no deposit, do not carbonize in the cylinder or soot the spark plug. Their superior qualities have been proved by the most exacting tests on American and Foreign Cars. ASK AT YOUR DEALERS FOR HARRIS OILS

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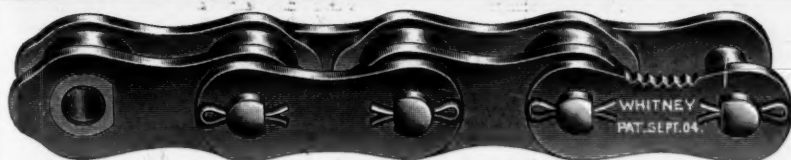
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(24 H. P.)

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Specially Reduced To \$1,750—\$2,250
And Each Car GUARANTEED O. K. in every particular.

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Complete Equipment of Lamps and Tools with each Car.

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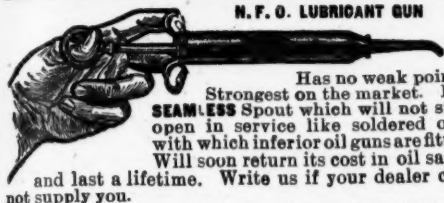


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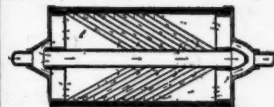
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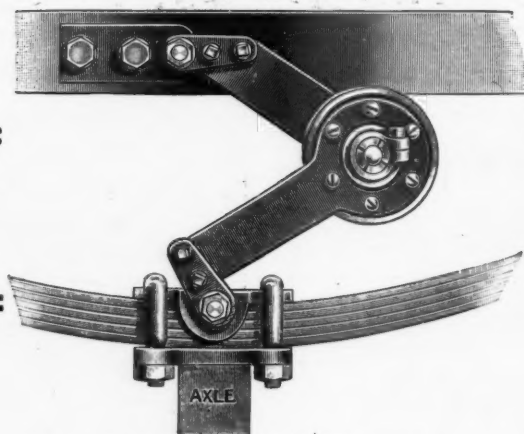
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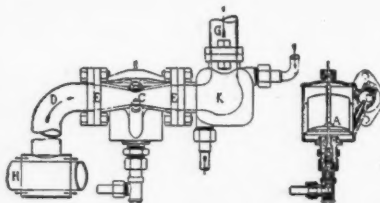
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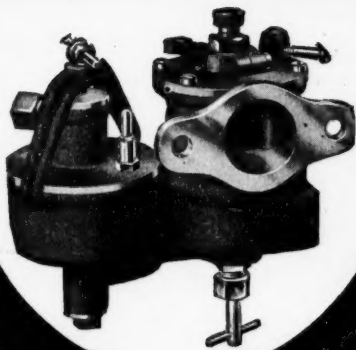
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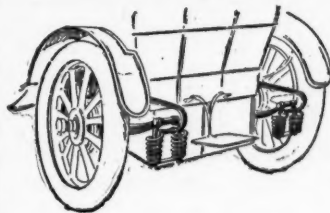
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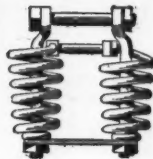
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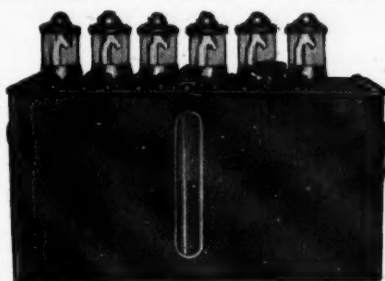
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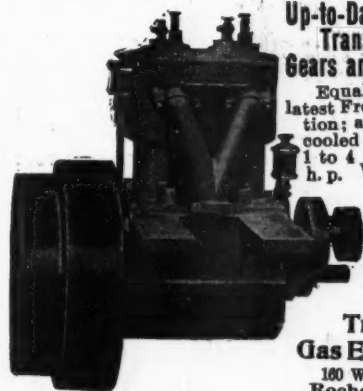
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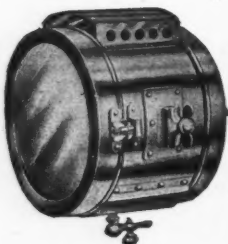
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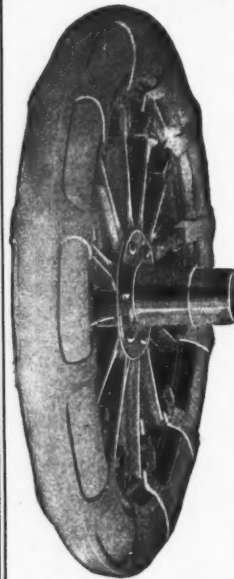
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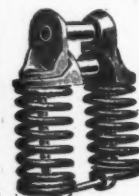


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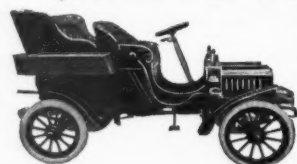
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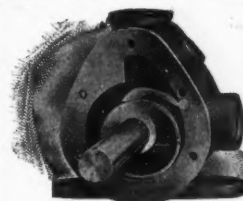
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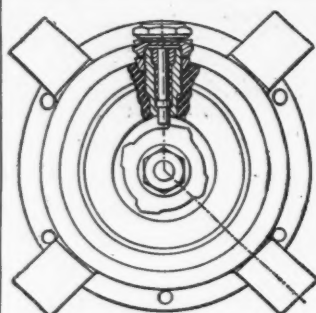
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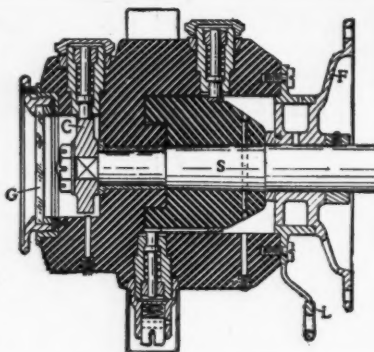
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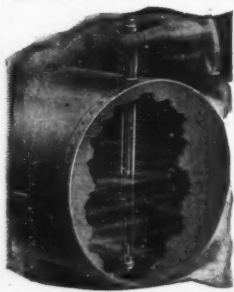
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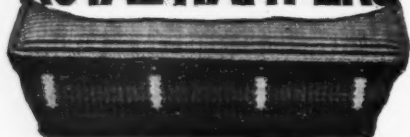
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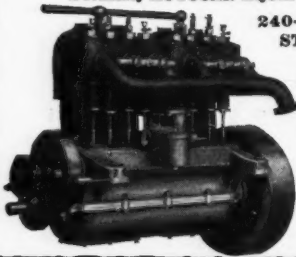
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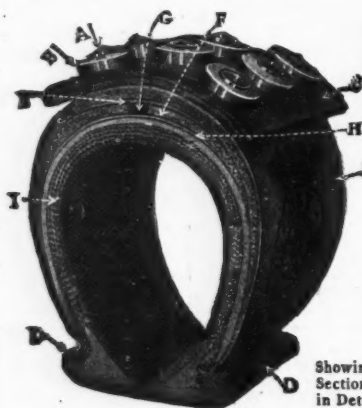
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